

BOOK OF

SUCCESSFUL FIREPLACES

HOW TO BUILD THEM

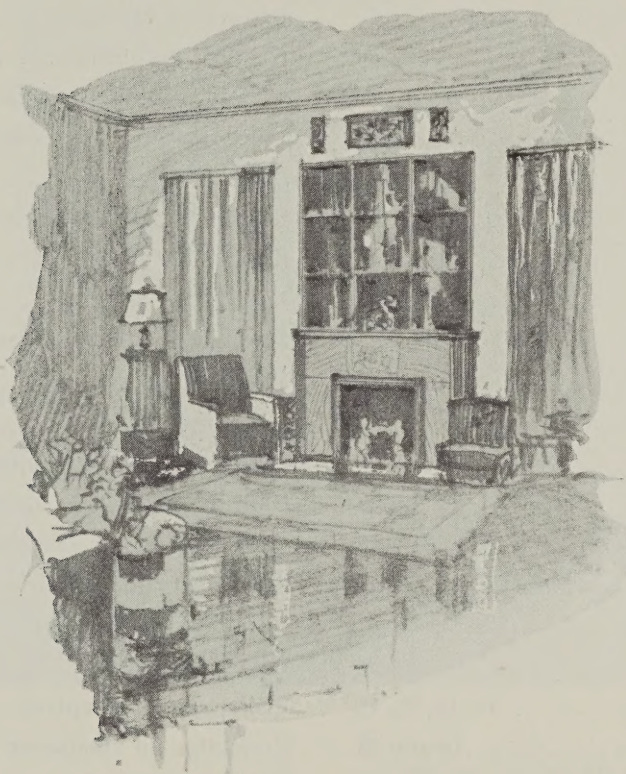


Feb. 1946

**PRICE 50¢
TWELFTH EDITION**

BOOK OF SUCCESSFUL FIREPLACES

How to build them



TWELFTH EDITION · PRICE 50 CENTS · 60 CENTS IN CANADA
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Published by

THE DONLEY BROTHERS CO.

13900 MILES AVE., CLEVELAND, O.

PRINTED IN THE U. S. A.

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Greeting ~

Reader and friend—We wish you success in your quest for fireside happiness. Long ago we decided that if we helped people to understand fireplace problems our other objects would pretty well take care of themselves. So we want to emphasize three facts—

First; fireplaces that are built right do not smoke. Designs and simple directions contained in this book point the way to success in fireplace construction. You minimize your risk of disappointment when you stick to these basic principles. Of many cases we have investigated we do not recall one failure in which the reason was not apparent in faulty planning or construction.

Second; for maximum heat with an open fire, the solution is the Heatsaver Fireplace. In circulating warm air through the interior it brings warmth which no masonry fireplace can equal, however constructed. The Heatsaver salvages much of the heat that would otherwise be lost up the chimney.

Third; outdoor fireplace satisfaction can be had at small cost. Instead of multiplying designs, we have suggested a few units that have proven to work well and show how they can be combined into more elaborate structures if the owner desires.

Beyond the practical aspects of fireplace building, we seek to join you spiritually in the inner satisfactions that come from communion with the open flame and kindred souls within its radiance. Happiness to you all.

The Donley Brothers Co.



Fireplace in the home of Miss Alma VanEck, Bay, Ohio; Small, Smith and Reeb, architects.

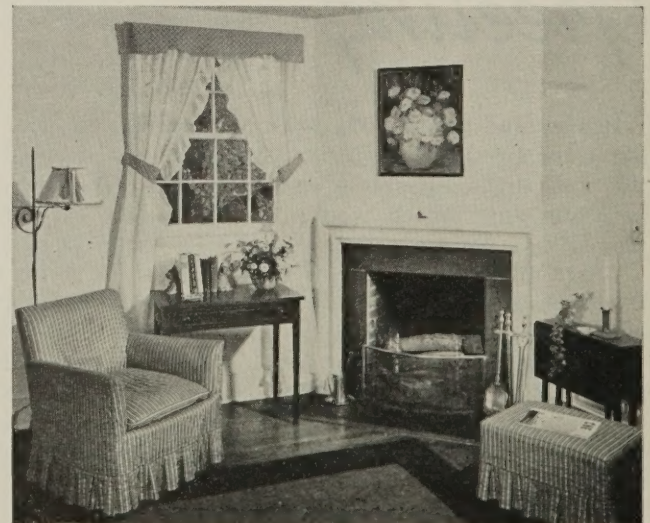
FACTORS IN FIREPLACE PLANNING

PLANNING the location, size and general character of your fireplace is a subject worthy of careful study from the time your home project begins to take shape. Several factors are involved, the first of which is, perhaps, the chimney. It is a definite feature of the exterior architecture. In some cases, its location is determined by the desirability of enclosing several flues in the same stack, including, perhaps, that of the basement heating plant. So the task of locating a fireplace is a work of co-ordination, in which utility and esthetic effect must each bear their due part.

Interior Planning—This includes consideration of proportions of the room as a whole, the way in which it will be used and the decorative scheme contemplated. Just as industrial plants are planned with reference to the sequence of operations, it is necessary for the designer of a home to enact, mentally, the experiences of those who will enjoy the fireplace, from the first glimpse on entering the room to the final relaxation of dozing, reading or chatting within the aura of its rays.

The Vista Effect—Many fine homes in the past have been planned with rooms in series, connected by double doorways, with a living room fireplace at the

end of the vista—a heart warming reminder to occupants of any rooms, so connected, of the repose and warmth awaiting them. Fireplaces so located tended toward ornate design with emphasis on mantel ornaments and on the picture framed above. This pattern has grown less mandatory in later decades, but the desirability of framing the fireplace in a spacious doorway, as one approaches the room, still has sanction.



While not ideal, the corner fireplace offers distinct charm to the compact interior of the present day, low cost home, as exemplified in this view from the archives of Richard Averill Smith.

Trends in Design—While too stable an institution to be subject to whims of style, fireplaces participate in trends of domestic design. With the prevailing simplification of home life, it is not surprising to find more interest in the possibilities of the small fireplace. The compact, low cost home needs a fireplace in keeping with its prevailing scale. Such a fireplace need lack nothing in charm and comfort.

More corner fireplaces are being built because in many a compact interior the corner offers the one answer. There has been a distinct gain, too, in the merit and originality of corner fireplace designing.

Rustic and early American period types are holding their own but otherwise there has been a lapse of interest in strict period treatments. In fact, designers are borrowing and simplifying whatever they like in the details of any period without being bound by its traditions. The grander and more severely classic types are seldom encountered for the reason that it is no longer customary to build homes of moderate size that imitate mansions. The colonial or English farmhouse is much more likely to be the basis of the prosperous suburban home of today.

Modernism is no longer the separatist cult of recent years. It has won many victories and feels that it can meet its old antagonists half way in creating effects whose sole aim is to be inviting, comfortable and home like.

Side, End or Corner—The real consideration in locating a fireplace is the creation of an area of comfort and repose in the room, subject to the least disturbance from those moving about; commodious in its room for comfortable chairs and perhaps a couch; convenient in relation to books, to smoking facilities, or whatever fireside comfort may include.

Such roominess is most likely to be found at the side or end of a room. An end position is very likely to be preferable on grounds of seclusion. A side posi-



Modern fireplace in the suburban home of Lawrence Blazey, Cleveland artist, which he designed. The mural "Descent of Night", over the fireplace, is Mr. Blazey's work.

tion may avoid cramping of furniture.

The sense of security and repose that goes with full enjoyment of a fire is impaired if there are doorways flanking the fireplace or even one doorway close to it. Similarly, windows in the range of vision impair concentration of interest on the fireplace. If needed for light, they may be located above the line of vision, flanking the chimney, and perhaps with book shelves below.

Question of Projection—A fireplace may stand flush with the wall, it may extend wholly into the room or it may project for a part of its depth. The greatest freedom comes in the case of a fireplace built against an outer wall, with a stack for its sole use.

Where the fireplace is built against a partition, employing a stack with other flues, the question of pro-



Fireplace in home of Mrs. Burnetta Carroll, Shaker Heights, Ohio.



Fireplace of the medieval type in the home of Mr. and Mrs. Brigham Britton, Geauga Co., Ohio.

SUCCESSFUL FIREPLACES



This fireplace at the end of a room is flanked by windows, with book shelves set in the corners at left and right. Richard Averill Smith photo.

jection is complicated by disposition of spaces in adjoining rooms and a partial projection is the most frequent solution.

While the extreme simplicity of modern treatments tends toward the flush fireplace, much is to be said in favor of a degree of projection. It helps to emphasize the fireplace. It affords additional space at the wings for the placing of fuel containers, fire tools or furniture. In the case of the Heatsaver Fireplace, projection is distinctly preferable, since the grilles may be placed at the sides, rather than on the face.

Period Treatments—The modern movement in domestic design, which once represented merely an aversion to traditions, has reached a maturity that affords a fairly well digested technique.

Much agreeable designing of the present day is quite free from conscious period influence. In evaluating strictly modern design, it must be borne in mind that the fireplace is perhaps our most conservative institution. On grounds of strict utility, its use might be greatly curtailed. It persists and gains friends, because people see in it a satisfaction that has endured through the centuries—experience an effect which takes them back to their youths. They are accustomed to see the fireplace emphasized by design details and by the objects of art that surround it.

Colonial Fireplaces—An offshoot of the Georgian period is found in Colonial and Early American modes. They had the advantage of being produced in a time and place in which simple technique and native materials ruled. The enduring vogue of Colonial architecture makes it quite appropriate that Colonial precedent be consulted in the fireplace design.

These precedents range from Classicism—often expressed in white enameled wood work—to the ruder effects of fireplaces whose functions included cooking. In many cottages and farm houses of the Atlantic sea-

board during the seventeenth and eighteenth centuries, a single fireplace served all purposes. It was usually of rough masonry co-ordinated with rough plank and hewn timbers. It had a crane for pots and kettles and an oven adjoined

its generous opening.

In somewhat refined rendering, such fireplaces lend great charm to the present day living room and recall the origin of the term—a room where the family lives. The presence of a crane and a convenient kettle offer constant temptation to brew tea before the fire. The corn popper and the toasting fork assume their roles more naturally before a fireplace that bears this air of utility.



Mr. and Mrs. Phil Scott of Chesterland, Ohio, both amateur artists, created this fireside effect in a cottage deep in the woods.

The Rugged Type—Quite apart from precedent, fireplace preferences are constantly expressing themselves in rugged stone masonry, employing field stone or chunks hewn irregularly from quarries.

Rugged treatments co-ordinate admirably with plank lined interiors. They are frequently employed in informal basement rooms. If a period atmosphere is desired, it can be found in such accompanying details as suggest the Gothic period, including the use of massive forgings.

The Question of Size—Both esthetic and operating considerations must be heeded in determining the size of the fireplace.

"When I build, I want a great, big fireplace," is a common resolution by fireplace enthusiasts. They forget that a great big fire would probably drive them out of the room. The point is that the fireplace must fit the fire. A lively blaze that comfortably fills a 30-inch fireplace yields more warmth than the same blaze in a 48-inch opening. Cleaner operation is assured in the former case, because the smaller damper throat accelerates the exhaust of smoke and gases.

Comparison may be found in the development of the automobile engine, where it was found that an intake manifold of relatively small diameter meant a more rapid and uniform flow of vaporized gasoline to the cylinders.

It must also be remembered that a flue for a 48 inch fireplace is fifty per cent larger than for the 30 inch

size. This means a corresponding increase in air supply needed for combustion, if the fireplace is to be used at full capacity.

Air Supply for Combustion—It takes air to run a fireplace—air for draft, oxygen for combustion. In homes of past generations it was sometimes supplied over abundantly. The roaring logs drew drafts through every chink and cranny of window or door. Chairs with wings at the level of the face were provided to keep off drafts from the rear, while the face and shins toasted.

Until recent times there has been little difficulty in securing moderate updraft needed for the operation of the present day fireplace. But newer techniques of weather stripping, caulking and use of special gaskets on casement windows has made many a modern interior tight as a drum. If a furnace, or an incinerator are operating, the only source from which they can get needed combustion air is down the fireplace chimney. Downdraft thus created prevents maintaining a fire on the hearth. Even if there is no other fire in the interior, perfect tightness prevents the building of a satisfactory open fire.

The solution to all these problems, as well as the problem of decent respiration, is ventilated interiors. The slight opening of a basement window, if there is no other ventilating device, will generally provide air needed for the fireplace, for the furnace, the incinerator, the lungs.



Dunham Tavern, the oldest structure within the city of Cleveland, has this interesting kitchen fireplace. Now held as a public monument, Dunham Tavern is in charge of the Cleveland Society of Collectors.



*Fireplace in O. O. Bachtel residence, San Antonio, Texas.
Bartlett Cocke, architect.*



Studio fireplace in residence of E. H. Augustus, Waite Hill, O., Monroe Walker Copper, Architect.



Wendell Smith, of the editorial staff of Copper Publications, built this fireplace himself from Donley plans. It occupies the place of honor in his studio living room at Topeka, Kansas. Mr. Smith, whose writings on fireplace topics have been widely published, is founder of the Grand Order of Fireplace Fanatics and creator of amusing cartoons on fireplace topics.



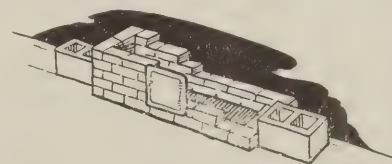
STORY OF A TYPICAL HOME FIREPLACE

AFTER considering the foregoing factors and having agreed on an attractive design, Mr. and Mrs. Owner entertain the hope that their fireplace will shed radiant warmth, with moderate fuel outlay; will be free from smoke eddies and look clean, very much like the picture shown here.

Begins with Ash-Pit—Watching it in their daily visits, they see the basement wall rise and in it the brick enclosure that is to be the ash-pit. Mr. Owner's pocket

rule reveals interior dimensions of 46 by 14 inches—plenty, he thinks, for a fireplace that is to be 34 inches

Recess that forms the base of the ashpit, incorporated in the foundation wall.

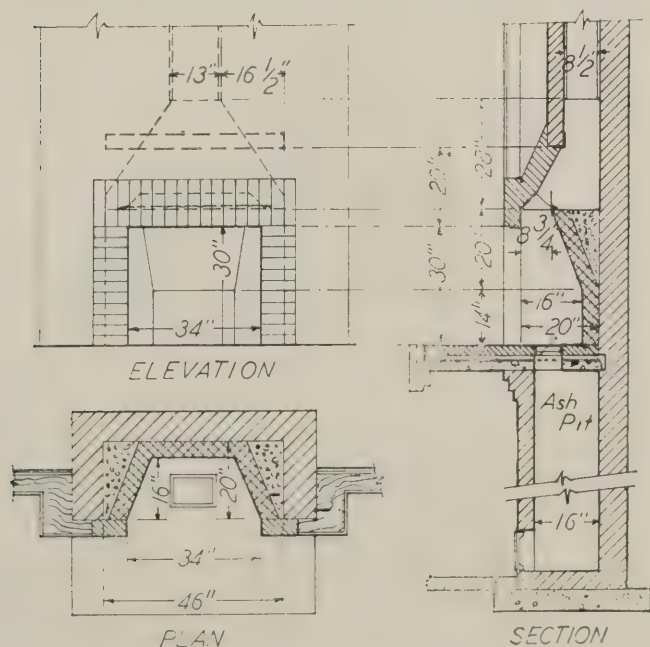


wide. Just above the prospective floor level of the basement, the mason introduces a 10 by 12 inch ash-pit door.

Preparation for the Hearth—As the floor level is approached, the fore-wall of the pit widens forward in successive steps—"Corbelling", explains the proud Mr. Owner to his much-impressed wife. About 5½ inches below the finished floor level, the fore-wall is leveled off, completed. At the same height, the mason introduces a notch in the rear wall, 3½ inches high and one or more inches deep.

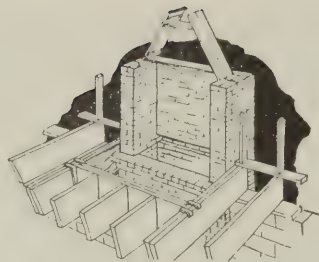
The Roughed-in Fireplace—Back wall and sides continue upward to a height some 36 inches above the hearth level. Here the mason introduces a wooden form, two sloping boards, like the side of a letter "A", held in place by cross strips—assuring true, smooth sides for the smoke chamber. Twenty-eight inches above its base, the chamber has narrowed to flue dimensions. Wooden forms are removed. Mrs.

Plans at the left are typical for a masonry fireplace with wood trim, 34 inch opening. The fireplace illustrated above in the Richard Averill Smith photograph conforms to the plans only in a general way.



Owner remarks that this large, gaping recess "does not look much like a fireplace." "Just roughing it in," replies the mason.

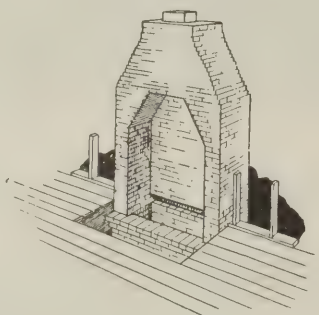
Rough masonry completed to damper height with wooden form for smoke chamber in place.



Building the Chimney—At the top of the smoke chamber, the mason introduces an 8½ by 13 inch flue lining. As work proceeds upward, each flue unit is encased in brick and carefully cemented to the adjoining unit. The finished height of the chimney is about 27 feet, three feet above the highest point of the roof. If the home has fireplaces on more than one floor, the flue arrangement is such as is shown on Page 17.

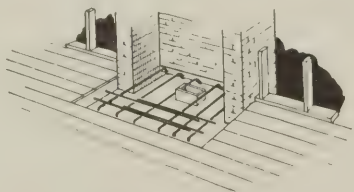
The Fireplace Expert—The master mason on this job likes to finish fireplaces himself, entrusting rough brick work to one of his crew. His first concern is the hearth slab to fill the gaping opening in the wooden floor.

Rough masonry carried to point where flue commences. All is ready for hearth construction.



A Cantilever Hearth—The hearth, he explains, must be free of floor support, since the settlement of chimney and floor will be unequal and might crack the hearth. Hence a 3½ inch slab is to be poured, its rear anchored in the notch of the rough brick masonry and its center resting on the fore-wall of the ashpit. Its forward area is to be supported on the cantilever principle.

Form and reinforcing in place for pouring concrete hearth slab.

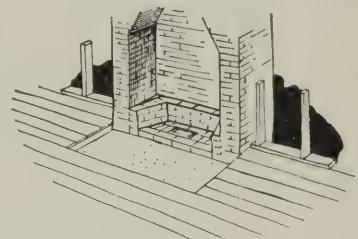


Six overlapping sheets of steel constitute the form. Six reinforcing rods, with ends bent to afford "feet" are placed and wired to lighter cross rods. This reinforcement stands at a height just under the level of the upper surface, when poured. A small, temporary, wooden frame outlines the opening for the ash dump that gives access to the ash-pit below. Metal forms and reinforcing rods constitute the Donley Cantilever Hearth Assembly.

The Interior Masonry—As the inner hearth of firebrick is laid and the back and sidewalls of the same material begin to take shape, Mrs. Owner remarks that it begins to look like a fireplace.

The uncrated damper lies, fully assembled, near at hand and the mason refers, from time to time, to the Donley Plan Sheet which came attached to the crate. The back of the fireplace is narrower than

Start of finished brick work of hearth and fireplace interior.



the front, Mrs. Owner notices, the sides being splayed inward about 5 inches to the foot. When the back has reached the height of 14 inches, a forward slope commences.

"It's just like a reflector," she remarks.

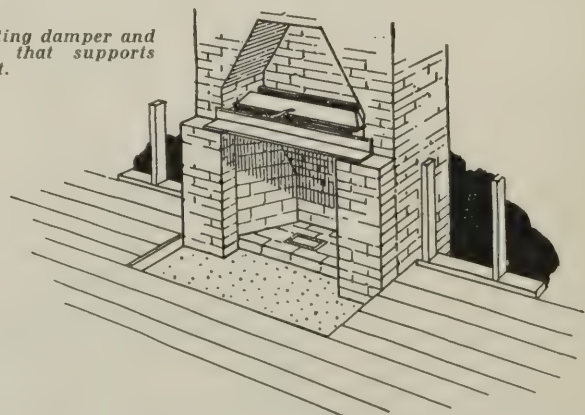
"Just the idea," the mason agrees.

Face brick of the front sides keeps pace with the firebrick interior. Thirty inches above the hearth, the mason introduces a strong 3 by 4 inch angle to support the masonry of the upper front, or breast. "Seems as if I had read that the damper flange supports the brick work," remarks Mr. Owner.

"Not the Donley Damper and not the way I build fireplaces," replies the mason. That would generally mean too low a damper position. You need a few inches of brick below the damper level as a "hood". Then suppose it was an arched opening. The flat flange would force the damper back and not leave room for a smoke shelf. Mrs. Owner wondered about "smoke shelf", but soon saw the mason level off the back and sides, at a height of about 34 inches—fill in over the slope with rubble and leave a real shelf.

Setting the Damper—Lifted into place, the damper just coincides with the slope of the back and angle of the walls, so that metal and masonry form a continuous surface. "See," explains the mason, "when downdraft

Setting damper and angle that supports breast.



comes down the chimney—as some is pretty sure to do—it strikes the smoke shelf. If it tries to get down into the fireplace throat, it strikes the valve plate of the damper, so it eddies upward and goes off with the smoke."

The sleeve for the control rod that opens and closes

the damper is cemented in the front masonry. The length of the rod is adjusted by a set screw to bring the control key close to the brick front. Rubble fills in the angle between the breast and damper, to make a smooth joint. From there on, it is a bricklaying job,

until the masonry reaches mantel height.

"When the carpenters are putting in the trim, they will place the mantel," explains the mason.

"I can hardly wait," answers Mrs. Owner.

The Donley Observer Salutes The Busy Mason



*Impatient owners try to hasten
The function of the careful mason.
The slowly forming, deep foundation
They view without the least elation.
The muddy hole that is their cellar
Is surely not a cheer compeller.*

*As long as any mason lingers,
They count the days upon their fingers.*

*But just as sturdy trees require
A root well anchored in the mire,
A home's enduring satisfaction
Depends upon the mason's action,
For he must lay each unit surely,
Must waterproof it quite securely.
That open shaft, so deep and hollow,
Is where the fireplace will follow.
He gives its lines the true proportion
Avoiding subsequent distortion;
He sees that smoke is unimpeded
And when time proves he has succeeded,
The mason's work will be applauded
Wherever the new home is lauded.*

BUILDING A SUCCESSFUL FIREPLACE

THE foregoing narrative gives a pretty good idea of how one fireplace was built, but not all fireplace construction questions are encountered in any single fireplace operation. With the aid of the plans, adjoining, let us review some of these problems.

Plans are Furnished—Difficulty is avoided by sticking quite closely to the plan, elevation and profile shown. This is a convenient solution since a sheet with similar plans, directions and construction hints is attached to the crate of every Donley Damper. We do not claim, by any means, that it is impossible to build a successful fireplace from other plans. However, the design here offered represents a consensus backed by long experience. It permits a wide range of adaptation to exterior design. We see no reason to seek variation in interior proportions affecting the actual conditions of combustion.

Two Methods of Building—The generally accepted practice, and the one which we recommend, is to complete the rough brick work of the fireplace from ash-pit footings to chimney top before undertaking the installation of the finished interior and front. There is also a practice of finishing the fireplace in sequence as the brick work advances. We believe that the completion of a fireplace is a task of sufficient importance to command attention apart from the general progress of rough brick work—which may be entrusted to a man of lesser skill. The second method mentioned may exclude the service of fireplace specialists—whether engaged in the mantel and tile trade or in general masonry—whose concentrated experience is a powerful factor for better fireplaces.

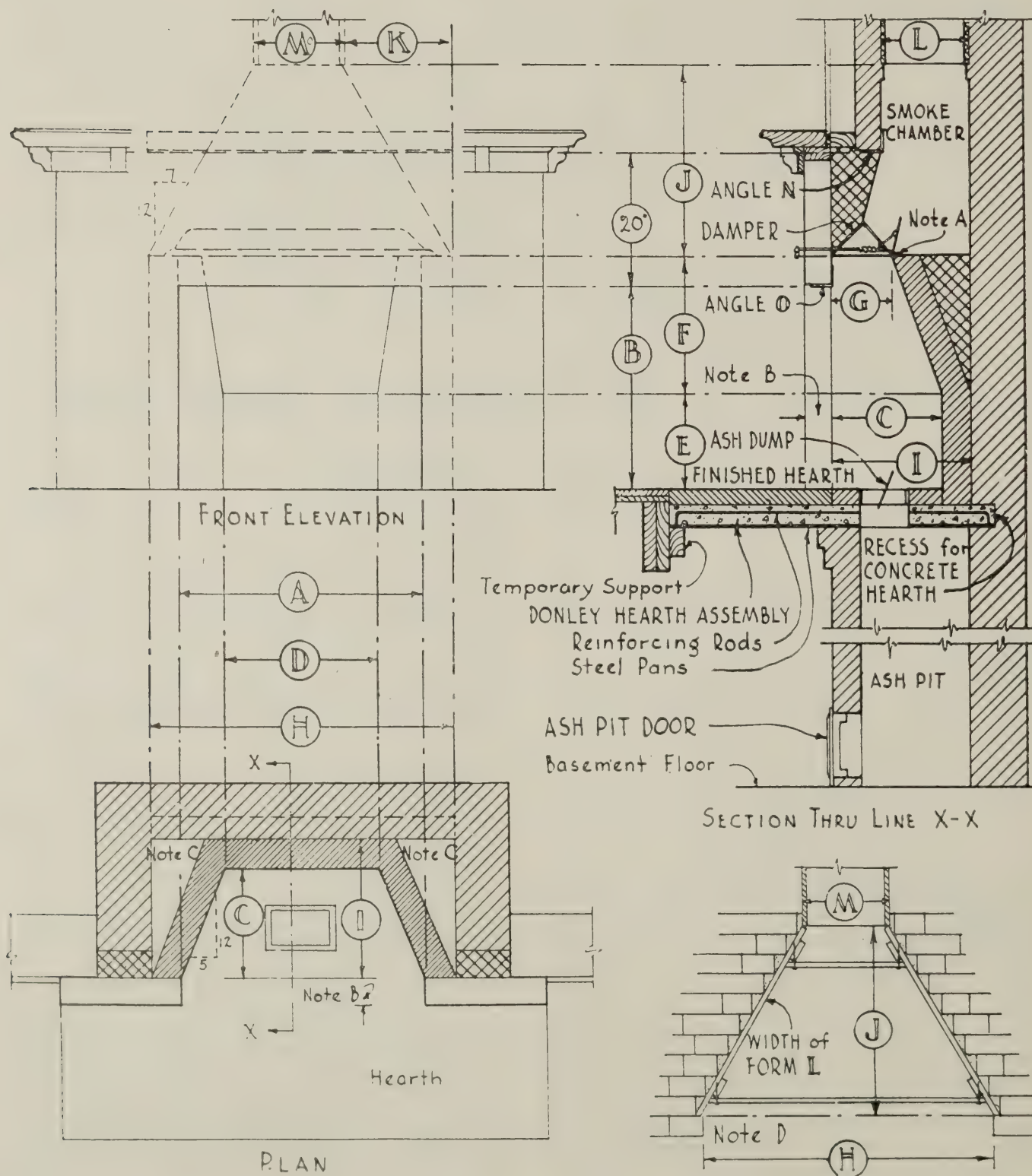
The Ash-pit—Where the building has a basement and the ash-pit is integral with the foundation, enlarged footings may be necessary to avoid unequal settling—the result of concentrated weight of a heavy chimney. If the ash-pit is separate from the foundation, the same problem of unequal settlement must be considered. In buildings without basements, care must be taken to have the footings well below frost level as well as adequate to carry the load of the chimney. Access for removal of ashes, in such cases, will be at the exterior ground level, where the Ash-pit Door will be installed. Choice of a door, for either outside or inside location, should be governed by convenient shovel size, which means 10 by 12 inches or larger, as illustrated at the end of this chapter.

Hearth Construction—It is important that the hearth, including the fore-hearth outside the fireplace area, be wholly supported by the chimney. Compromise support, in which the floor is made to carry part of the load, entails risk of cracking the hearth, should floor and masonry settle unevenly—or in case of shrinking or warping of floor timbers.

The cantilever principle must be employed in a properly supported hearth and this means a hearth slab of adequate strength. The design calls for a reinforced slab, 3½ inches thick. In helping to make better hearth slab construction convenient to the fireplace builder, the Donley Brothers Co. has developed an assembly of corrugated metal forms and of reinforcing rods, which save time and lend certainty to the operation. Six corrugated metal pans, by overlapping, serve for almost the whole range of hearth sizes.

Construction Sketch of Successful Fireplace

See Table of Dimensions on Opposite Page



Notes on Donley Fireplace Construction Sketch

Note A—The back flange of the damper must be protected from intense heat by being fully supported by the masonry. At the same time, the damper should not be built in solidly at the ends but given freedom to expand with heat as shown in the front elevation on the opposite page.

Note B—The drawing indicates the thickness of the brick fireplace front as four inches. However, no definite dimension can be given for this because of the various materials used—marble, stone, tile, etc., all having varying thicknesses.

Note C—The hollow, triangular spaces indicated in the plan, behind the splayed sides of the inner brickwork should be filled to afford solid backing. If desired to locate a flue in either space, the outside

dimensions of the rough brickwork should be increased.

Note D—A good way to build a smoke chamber is to erect a wooden form consisting of two sloping boards at the sides, held apart by spreaders at the top and bottom. Spreaders are nailed upward into cleats as shown. The letters H, M, and J correspond to letters in the elevation and in the Table of Dimensions. The form boards should have the same width as the flue lining.

Note E—A steel smoke chamber is made by the Donley Brothers Co. and furnished where desired.

Note F—The sectional view opposite shows a rotary control type of Donley Damper. On Page 16 both rotary control and poker control types of damper are illustrated.

Table of Fireplace Dimensions

DIMENSIONS														EQUIPMENT											
FINISHED FIREPLACE OPENING							ROUGH BRICK WORK							ACCESSORIES					FURNISHINGS						
WIDTH	HEIGHT	DEPTH	BACK	VERTICAL BACK WALL	SLOPED BACK	THROAT	WIDTH	DEPTH	SMOKE CHAMBER	SLOPE OF SMOKE CHAMBER	STD RECTANGULAR FLUE LINING	Outside Dimension	STD ROUND FLUE LINING Inside Dia	HEARTH ASSEMBLY	DAMPER Rotary Control	DAMPER Poker Control	ASH DUMP	ASH-PIT DOOR	STEEL ANGLES "A" 3×3× $\frac{3}{8}$ "B" 4×3× $\frac{1}{2}$ "C" 5×3 $\frac{1}{2}$ × $\frac{5}{8}$	FIRE BASKET	FIRE SCREEN	ANDIRONS	FIRE SET		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O					LENGTH IN INCHES						
in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in	in	in	No	No	No	No	in	in	N	O	No	No	No	No
26	24	16	13	14	14	8 $\frac{3}{4}$	39	20	24	15	8 $\frac{1}{2}$ ×8 $\frac{1}{2}$	10	72	330	230	58	10×12	A 36	A 30	24					
28	28	16	15	14	18	8 $\frac{3}{4}$	42	20	25	14 $\frac{1}{2}$	8 $\frac{1}{2}$ ×13	10	72	330	230	58	10×12	A 42	A 36	24					
30	30	16	17	14	20	8 $\frac{3}{4}$	42	20	25	14 $\frac{1}{2}$	8 $\frac{1}{2}$ ×13	10	72	330	230	58	10×12	A 42	A 36	28					
32	28	16	19	14	20	8 $\frac{3}{4}$	44	20	26	15 $\frac{1}{2}$	8 $\frac{1}{2}$ ×13	10	72	333	233	58	10×12	A 42	A 42	28					
34	28	16	21	14	20	8 $\frac{3}{4}$	46	20	28	16 $\frac{1}{2}$	8 $\frac{1}{2}$ ×13	12	72	336	236	70	10×12	A 48	A 42	30					
36	30	16	23	14	20	8 $\frac{3}{4}$	46	20	28	16 $\frac{1}{2}$	13×13	12	72-84	336	236	70	10×12	A 48	A 42	34					
40	30	16	27	14	20	8 $\frac{3}{4}$	50	20	32	18 $\frac{1}{2}$	13×13	12	72-84	342	242	70	10×12	A 48	A 42	34					
42	30	16	29	14	20	8 $\frac{3}{4}$	54	20	35	20 $\frac{1}{2}$	13×13	12	84-96	342	242	70	10×12	B 54	A 48	34					
48	33	18	33	14	23	8 $\frac{3}{4}$	59	22	40	23	13×13	15	96	348	248	70	10×12	B 60	B 54	40					
54	36	20	37	14	26	13	67	24	42	24 $\frac{1}{2}$	13×18	15	96	354	254	70	12×15	B 66	B 60	40					
60	39	22	42	14	29	13	71	26	45	26 $\frac{1}{2}$	18×18	18	96	360	260	70	12×15	B 66	B 66	57					
72	40	22	54	14	30	13	83	26	56	32 $\frac{1}{2}$	18×18	18	Special	372	272	70	12×15	C 80	C 80	57					

Notes on Use of Dimension Table

Note 1—A ruler is a convenience in using this table. Select the number in the left hand column that corresponds to your proposed width of fireplace opening. Lay the ruler on the line below it and read the figures to the right on the same line. They give you the complete recommended dimensions and installation for the fireplace of the chosen width of opening.

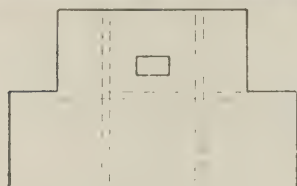
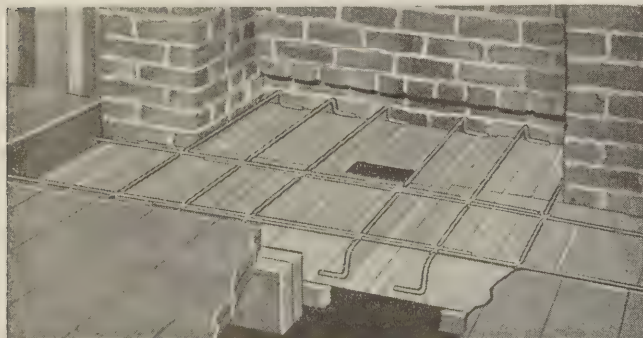
Note 2—Under the heading Accessories, the first two columns refer to two different types of damper and are, of course, alternates. Rotary control dampers have numbers beginning with 3, poker beginning with

figure 2. An order that simply calls for a given size in inches is not sufficiently clear. Order dampers by number.

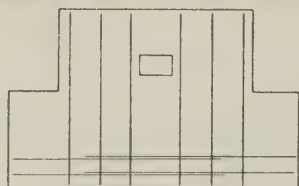
Note 3—Under Furnishings, the size of fire basket is specified, since it is important to have a basket that fits the hearth plan. The three other columns are left blank since screen, andiron and fire set are matters of taste and preference. These columns remind you not to omit these three essentials to fireside satisfaction.

Building a Successful Fireplace, Continued

Cantilever Hearth Construction—Below are seen arrangement of pans and also of the reinforcing bars. These are bent at each end to give them the correct elevation, also "feet" on which they remain upright during the pouring operation. Since the axis of strain is on the fore-wall of the ash-pit, the reinforcing is provided just below the upper surface of the slab. The dimension table is a guide in securing the desired assembly.

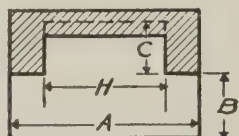


Layout of Pans



Reinforcement Bars

Note—Hatched portion indicates brick-work. Unhatched portion is concrete slab.



No.	A	B	H	C
72	72"	24"	48"	24"
84	84"	24"	48"	24"
96	96"	24"	72"	24"

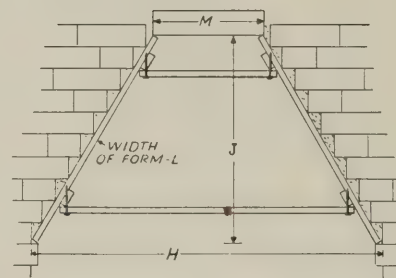
The rear of the slab is anchored in a recess in the rear wall. The corbelled fore-wall of the ash-pit forms an axis, while the front of the form rests on a temporary strip of wood, nailed to the floor joist header. The slab will, of course, be constructed at a level which permits the finishing hearth of brick, tile or other material to be laid at floor level, or whatever height is desired.

Roughed-in Fireplace—The plans and table of dimensions indicate the relation in size between the rough enclosure and the finished fireplace.

Smoke Chamber—At damper level, the enclosure narrows to form the smoke chamber. It is important that the slope of its two sides be identical, the flue taking

off from the center. Necessary sloping to bring the flue to its place in the stack is accomplished in the flue, not in the smoke chamber. A form consisting of two boards with connecting braces

helps to give the brick a proper slope and assists in providing the important smooth surface which assists in discharge of smoke.



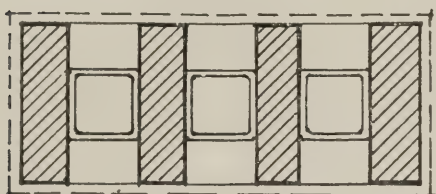
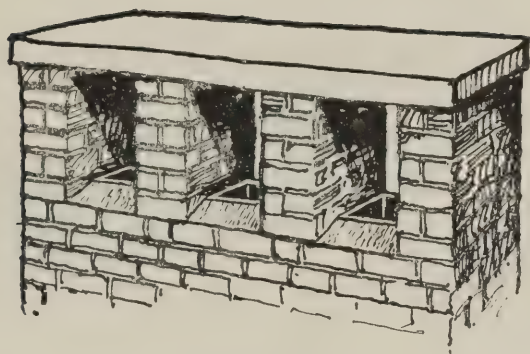
Flue Construction—Important considerations in proper building of a flue are (1) sufficient size, the net flue area being not less than $\frac{1}{2}$ the area of the fireplace opening, (2) sufficient height, 25 feet is desirable with projection of not less than 3 feet above the highest point of the roof, (3) smooth unobstructed passage for products of combustion, and (4) slope, if any, not to exceed 7 inches to the foot.

Rectangular		Round	
Outside Dimensions of Flue Linings, Inches	Inside Cross Sectional Area of Flue Linings, Sq. In.	Inside Diameter of Flue Linings, Inches	Inside Cross Sectional Area of Flue Linings, Sq. In.
4½ x 8½	23.56	6	28.27
4½ x 13	38.19	8	50.26
7½ x 7½	39.06	10	78.54
8½ x 8½	52.56	12	113.0
8½ x 13	80.5	15	176.7
8½ x 18	109.69	18	254.4
13 x 13	126.56	20	314.1
13 x 18	182.84	22	380.13
18 x 18	248.06	24	452.3

Rectangular No Allowance for Radial Corners

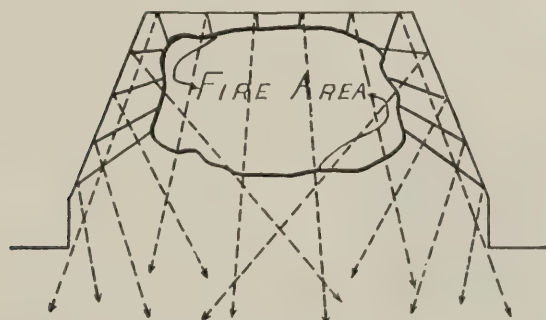
The table shows standard sizes of flue linings, rectangular and round, in relation to their net areas in square inches. This information is important, since clay product manufacturers list their rectangular flue linings according to exterior dimensions and round flue linings by interior dimensions. By following this table the relationship of not less than one to twelve can be maintained between net flue area and area of fireplace opening.

Flue linings should be tightly cemented together. This is especially important where more than one flue occupies a single stack. Otherwise there may be suction of smoke down one flue while smoke ascends in the other. A minimum of four inches of masonry between parallel flues is likewise recommended. Unequal projection of flues above the stack is a safeguard

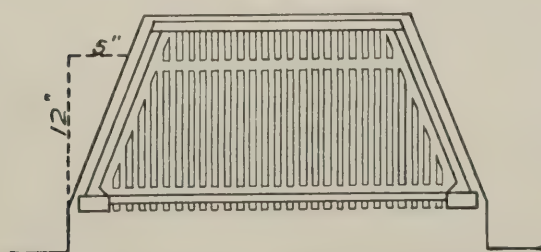


against smoke pouring out of one flue and down the other. Proximity of a tree or high building may be a hazard to free discharge of smoke. Often the remedy is found in hooding as shown in the diagram above.

Interior Construction—A successful fireplace is one in which the fire burns brightly with a maximum of warmth and freedom from discharge of smoke into the



Illustrating forward deflection of heat, when sides are splayed as indicated.



Showing how Donley Fire Basket fits into fireplace whose walls are properly splayed.

room. Every feature of the plans and discussions offered here contribute to this result.

The Hearth Plan—Count Rumford, whose work as a fireplace designer has never been surpassed, conceived the fireplace interior as a sort of reflector. His first measure was to splay the sides and thus narrow the hearth from front to back. Donley plans call for a splay of 5 inches per foot.

Back is Sloped—The reflector concept is further carried out by sloping the back of the fireplace forward from a point 14 inches above the hearth to the level of the damper as indicated in the drawings. This deflects both flame and heat forward. Products of combustion pass off through the damper, but a maximum of heat is deflected into the room.

Damper Placed Forward—The sloped back contributes to other important design factors. It brings the damper forward of and not directly under the flue and to a position just back of the breast wall of the fireplace. It leaves room for an ample smoke shelf behind the damper. Where the damper has a rear position no smoke shelf is possible. Soot falling down the chimney comes through the damper opening and often into the room. There is no barrier to downdraft and smokiness ensues. The rear position sacrifices much heat. Sloping back, damper well forward and a roomy smoke shelf—all important—all three co-ordinated in Donley designs. None can be sacrificed without impairing the other. The smoke shelf with the upturned damper plate forming a wall at its front, forms a barrier to downdraft, which is trapped and eddies upward in the ascending column of smoke.

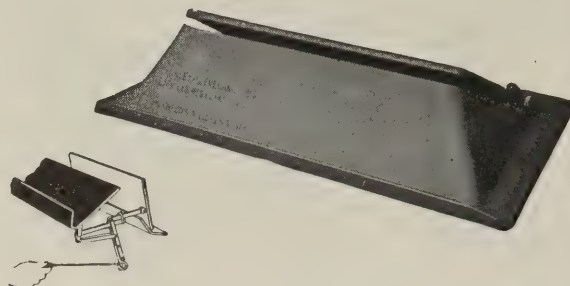
The recommended vertical position of the damper is four to eight inches above the breast wall of the fireplace (which is supported by a stiff steel angle). To sacrifice this breast wall margin in order to support the masonry by a damper flange is to incur risk of issuance of smoke into the room.

Choice of a Damper—The damper must be a co-ordinated part of a properly designed fireplace interior. It must afford a smooth, metal throat for the passage of smoke and fumes. It must have a vertical front flange to permit it to rest snugly against the masonry of the fore-wall. Its opening must be narrow, from front to rear, to continue the plane of the back slope and leave room for the smoke shelf. It must have a valve plate that is removable and that operates for the full width of the fireplace and forms an effective front barrier along the smoke shelf. Its sides must be splayed to conform with the fireplace design. It must be easy to adjust, easy to close during seasons when the fireplace is not in use. The Donley Damper was designed with all these objects in view. Choice of the means of control is a matter of preference. Poker control is less conspicuous. Rotary control is easier to operate.

EQUIPMENT FOR SUCCESSFUL FIREPLACES



Rotary Control



Poker Control

The Donley Fireplace Damper

Prime aid to a successful masonry fireplace is the Donley Damper, designed to conform to correct interior construction of the fireplace; built to last as long as the home; easy to operate. It promotes clean discharge of smoke through its throat, while maximum heat is delivered into the room.

Narrow Throat—The smooth, metal throat is kept at minimum width to afford room at the rear of the damper for an ample smoke shelf and to permit the sloping of the masonry at the back in such a way as to throw the ascending heat forward into the room.

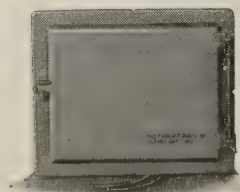
Narrow Front Flange—The important forward position of the damper opening is further aided by a vertical iron flange which brings it close behind the breast masonry and renders its position independent of the support of that masonry, which is accomplished by use of a strong steel angle.

Choice of Operating Device—Purchasers have option of control by rotating a key, attached to a rod that comes through the fireplace breast—or poker control,

in which the poker is hooked through a ring below the damper and pushed or pulled, with a slight lifting motion. Each has its advantages.



Completely Assembled and Crated—No puzzles in getting your Donley Damper together. Every one of them comes on the job completely assembled and in a stout crate. Attached to the crate is the Donley Plan Sheet, with drawings and instructions for fireplace building that have been adopted as standard by many architects.



Ash-Pit Door

A true-fitting, well constructed door for ash-pit or clean out purposes. Deformed rods, headed, pass through flange for anchorage in joint of masonry. Choose one large enough (not less than 10" by 8") for easy removal of ashes from your fireplace ash-pit.

Guide to Size and Type of Damper

Type of Damper and Number of Each			For Fireplace Openings With Maximum Width of	Shipping Weight
Poker	Rotary	Chain		
224	324	...	24"	27 1/2 lbs.
230	330	430	30"	32 "
233	333	...	33"	35 "
236	336	436	36"	38 "
242	342	442	42"	44 "
248	348	...	48"	50 "
254	354	...	54"	95 "
260	360	...	60"	100 "
272	372	...	72"	129 "
*284	*384	...	84"	150 "
*296	*396	...	96"	170 "

*Two Valve Plates.

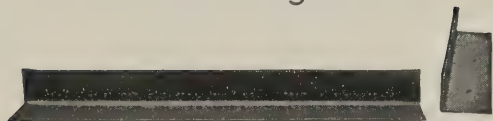
Wdth. Ht.	Shipping Weight	Wdth. Ht.	Shipping Weight
8x 6"	48 lbs. doz.	†18x24"	50 lbs. each
9x 7"	70 " "	24x30"	120 " "
8x 8"	70 " "	*24x30"	70 " "
10x 8"	85 " "	†30x30"	175 " "
12x10"	110 " "		
15x12"	160 " "		

(All doors and frames cast iron except as noted.)

‡Steel door and frame, slide type. *Steel door, Cast Iron frame.

†Double door. ‡Also supplied with baffle plate.

Steel Angles



A practical necessity in the proper support of masonry over the fireplace opening. These angles are of tested supporting strength and cut to convenient sizes. Free masonry support from consideration of damper height.

Sizes	Lengths, Inches	Shipping Wt., Per Ft.
3x2 x $\frac{3}{16}$	*30-36-42-48-54	3.07 lbs.
3x3 x $\frac{3}{16}$	*30-36-42-48-54	3.71 "
4x3 x $\frac{1}{4}$	*30-36-42-48-54-60-78	5.8 "
4x4 x $\frac{1}{4}$	Cut to order.	6.6 "
5x3 $\frac{1}{2}$ x $\frac{1}{8}$	" " "	8.7 "
6x4 x $\frac{3}{8}$	" " "	12.3 "

*Other lengths can be furnished, cut to order.



Double Door

Ash Dumps



Single Door

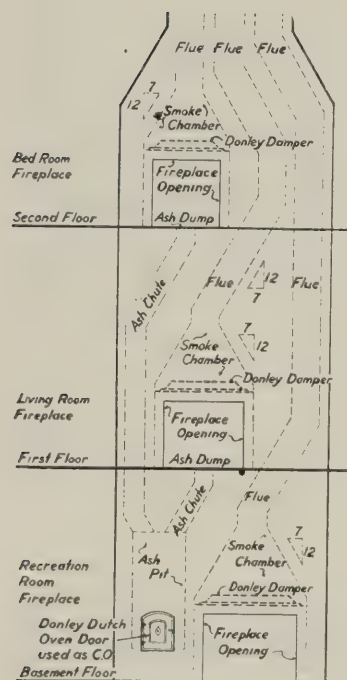
Donley Ash Dumps in the floor of the hearth, beneath the fire, permit quick, clean, easy ash disposal. Numbers 58 and 70, see above, have a single door set flush with the floor and are opened and closed with a poker. Number 57 has two leaves or doors that close automatically after ashes are pushed through. Number 70 is of stronger construction and has deeper flanges for anchoring in the hearth. On all models doors are locked into frames and cannot drop into the ash-pit.

No.	Floor Opening	Depth of Frame	Shipping Weight Per Dozen
57 (2-door)	5 x 7 "	1 $\frac{1}{4}$ "	25 lbs.
58 (1-door)	5 x 8 "	1 $\frac{1}{2}$ "	32 "
70 (1-door)	*7 $\frac{1}{4}$ x 10 $\frac{1}{4}$ "	2 "	68 "

*Including lugs on side, 7 $\frac{1}{4}$ x 10 $\frac{1}{4}$ "

Combinations of Adjacent Fireplaces

Fireplaces on Two or Three Floors



THE day is past when the fireplace problem can be considered as confined to the building of a single, living room fireplace. Most modern homes have basement recreation rooms, in which a fireplace is an indispensable feature. Often the same stack is employed which serves the living room fireplace, but many errors are made, such as venting of both fireplaces through a single flue, or the needless sacrifice of an ash-pit for the fireplace above.

A fireplace in a master bedroom, nursery, library or informal sitting room that may be located on the second floor makes fireplace planning a three-story problem. So we present

the sketch here shown that indicates an ideal way to combine three fireplaces in a single stack.

Each fireplace has a separate flue. Flues take off properly from the center of the smoke chamber. The slope of the flue is in no case such as to impede successful operation.

A joint ash-pit is provided for the fireplaces on the two upper floors. Instead of a typical cleanout door, a Donley Dutch Oven Door is employed, which gives the basement fireplace the aspect of a Dutch Oven Fireplace. With care, the occasional task of removing ashes through the basement recreation room need cause no offense.

Fireplaces on Opposite Sides of Wall

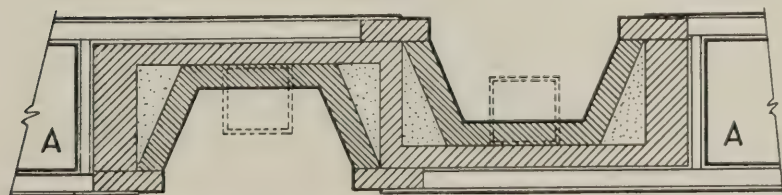
THE problem of fireplaces on the opposite sides of the same wall is treated on page 64, but in that case the problem is that of indoor and outdoor fireplaces on two sides of an exterior wall. The sketch at the bottom of this page refers to fireplaces on both sides of an interior partition.

Avoiding the deep projection that goes with back-to-back position, this arrangement for an optional disposal

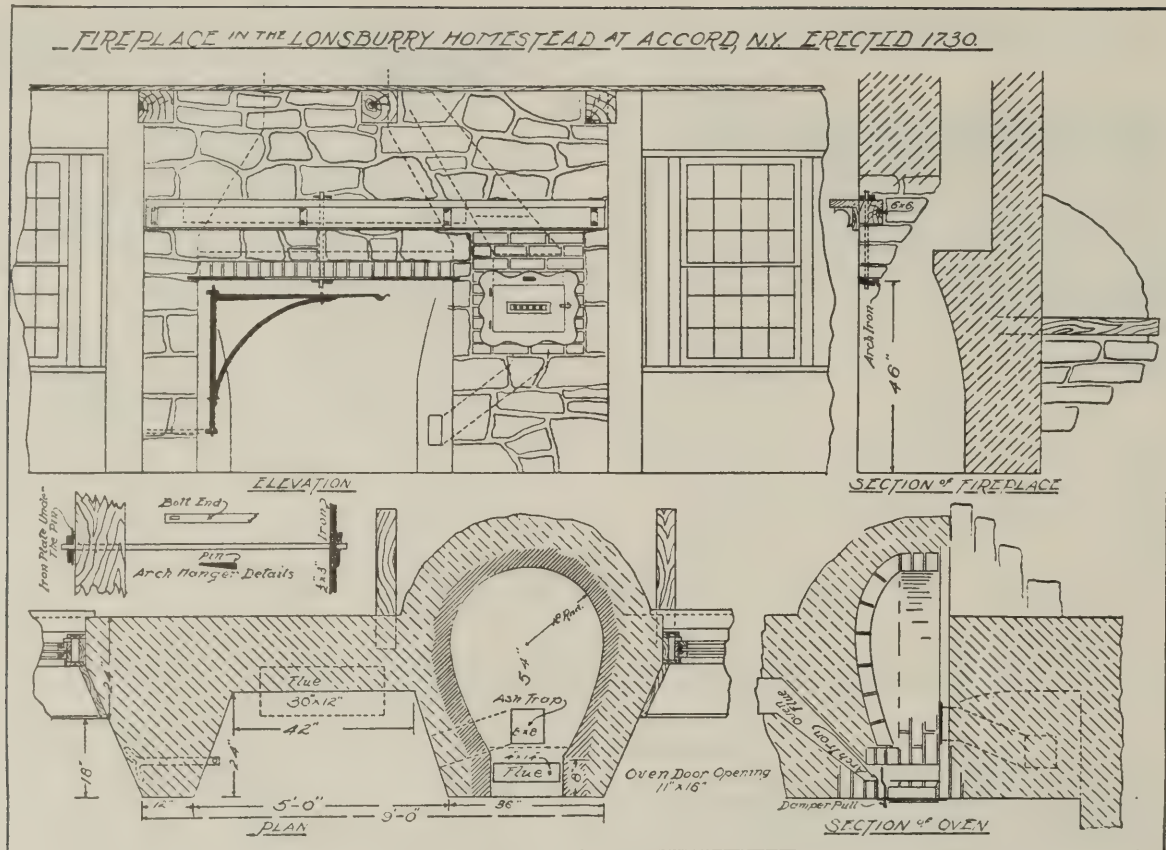
of the spaces marked A and A permits projection to be apportioned, reciprocally, between the two rooms. A relatively plain panel must adjoin each fireplace, representing the back of the opposite fireplace. However the mantel can be extended across this panel with good effect.

The A and A spaces may have fuel containers at their bases and above be devoted to book shelves, space for art objects or be finished as cupboards. Fuel space may be continuous through the wall and thus serve both fireplaces by filling from one side only.

Smoke chambers will be formed symmetrically and the slope of flues will start at or above the top of chamber.



SUCCESSFUL FIREPLACES



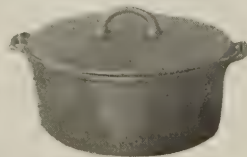
THE DUTCH OVEN FIREPLACE



THERE is much confusion in the use of the term Dutch Oven. Dictionaries define it as a metal chamber for baking, placed on the hearth. Such metal ovens survive in portions of the American west. The oven which

Count Rumford patented and which sold extensively in the early part of the Nineteenth Century was of this type.

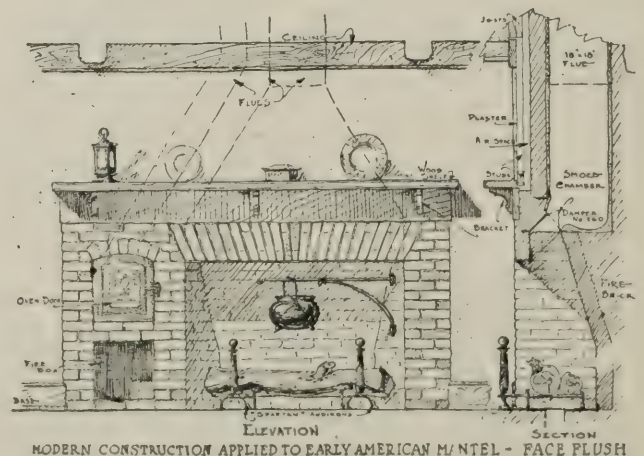
But a more common meaning, in traditions that now survive, is a masonry oven adjoining a fireplace. Probably early English settlers in America found Dutch and German immigrants using an unfamiliar type of oven and gave it that name. In all countries of Europe, baking was pursued in masonry ovens for many centuries. In many cases, the oven was outdoors and operated independently of the fireplace. In rural England it was not uncommon to have such ovens and, likewise, to have a smaller oven adjoining the kitchen fireplace. The former was known simply as "the oven". The latter as "the kitchen oven."

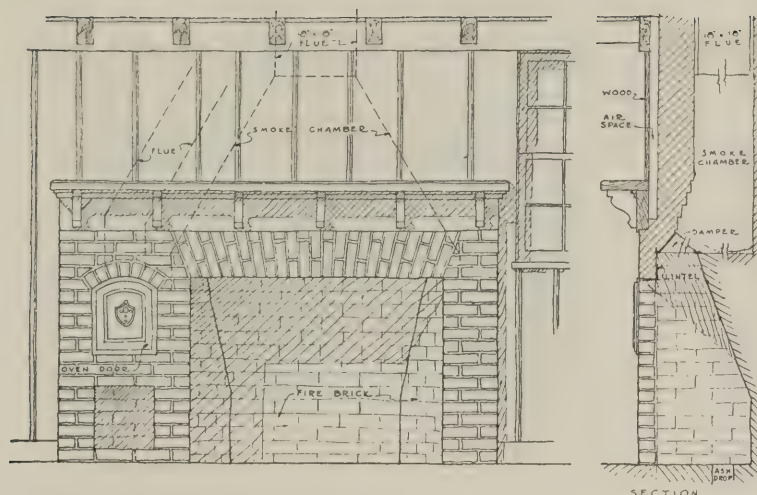


Some people call this a Dutch Oven.

Operation consisted of introducing fire into the oven

until it was thoroughly heated and then cleaning the interior. Bread dough was placed on the heated floor of the oven. The convenience of a kitchen oven lay in the fact that embers could be readily shoveled from the hearth of the fireplace into the oven and replaced there when their mission was accomplished. Some form of venting, usually into the main flue, was plainly necessary.





Design at left offers practical suggestions for Dutch Oven Fireplace, the oven being vented into a separate flue, rather than the main fireplace flue.

"The oven extends outside the main walls of the house," he writes, "and there were at one time on the outside walls (and at either side of the projection) oak beams as shown in the drawing. One of them is still in place and the other is now gone. They were probably used to support a roof over the oven. The stone work was laid up in clay. The brick were made from local clay and laid in lime mortar."

He tells us that stone work in the room was laid in clay and that a lime skim was applied over the face of the fireplace.



Double type of Dutch Oven with fire chamber below.

The Dutch Oven Today—While this form of baking is rarely practiced, the oven adjoining a fireplace has renewed favor. Its presence at the side of the fireplace gives an authentic touch of quaintness to reproductions of authentic Early American fireplaces. Often its presence is largely ornamental, the recess being used for storage. However, an increasing number of fireplace builders are including actual cooking ovens, both in indoor and outdoor fireplaces. There is a commendable freedom in the means of heating these ovens. Sometimes metal is used to separate the fire from the oven. If the fire is below, the oven may be used for cooking; if it is at the side, the oven is used for warming.

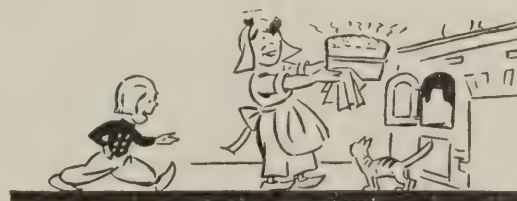
In other instances, a charcoal fire burns during the cooking operation. For such purposes, it is common to introduce a small fire door below the oven door. Instead of a masonry floor, the actual oven has a grid on which cooking or baking utensils are placed. Venting is usually through a small flue communicating with the fireplace flue.

An Early Model—On the preceding page is shown a drawing of the fireplace and oven in the Lonsbury homestead at Accord, N. Y. Lawrence S. Kier, mason of Cragmoor, N. Y., who repaired it, calls attention to the iron arch support, suspended by one iron rod anchored in a beam. The capacity of the oval oven is an arresting factor.



Constructing a modern Dutch Oven with heat chamber below on estate of W. D. Callahan, at Gates Mills, Ohio. John Sherwood Kelly, Architect. Fireplace is Heatsaver. Details of this type of oven on Page 73.

Donley Dutch Oven Door—The Donley Brothers Co. offers aid in Dutch Oven construction in the form of a Dutch Oven Door, pictured here. The design is pleasing either in period or modern setting. Located beside a basement fireplace, it often serves as an ash-pit door for fireplaces on floors above, as illustrated on Page 17. Its overall size is 15 by 18 inches and it fits a wall opening $12\frac{1}{2}$ by $15\frac{1}{2}$ inches in size.



NOTES ON AN AMATEUR'S FIREPLACE



THIS simple, frame cottage needed a fireplace to provide comfort on the chilly evenings that come in any summer season. The owner was not a mason, but he decided to do something about it.

The first steps were to provide openings in the wall and floor. The wall opening called for a rearrangement of the windows. The floor was sawed back two feet and to the full width of the rough brickwork. This meant re-arranging the supports for the joist. Also it was necessary to excavate down below frost level to provide footings for the chimney.



This picture shows the masonry constructed up to floor level. It rests on footings below the frost and covers more area than a professional would use, generally, for the same size fireplace. The front wall extends beneath the hearth and supports it. A reason for this was to give more width to the ash-pit. Ashes must be withdrawn at ground level and lack of depth is made up by larger area. The hearth is a concrete slab poured on a wooden form. It has an opening for an ash dump.



Here is an inside view showing the next ensuing stage, the rough brick work. Rough masonry encloses the finished interior. It is often made of common brick. In this case, the entire job was done with shale brick with no ill effects from ensuing heat. The brickwork is calculated for a projection of the finished fireplace into the room of about six inches. This includes the stone face, not shown in this view.



Now we go outside and see how things are progressing. Pretty fine, if this picture means anything. The broad chimney structure narrows to conform to the slope of the smoke chamber. From this point up it will be built around a flue lining of the dimension of 13" by 13". At the bottom is the ash-pit door through which it will take a pretty long handled shovel to reach all the corners of the wide ash-pit.



Here the finished interior and face masonry has been erected to damper height and the damper placed upon it. The stone work above the opening is supported by a heavy angle. The brick work at the rear is splayed forward from a height 14 inches above the hearth and at a slope that brings it just under the rear flange of the damper. Space back of this slope is filled and leveled off to form a smoke shelf. There remains the closing in of the breast above the damper, with a smooth slope back to the base of the flue.

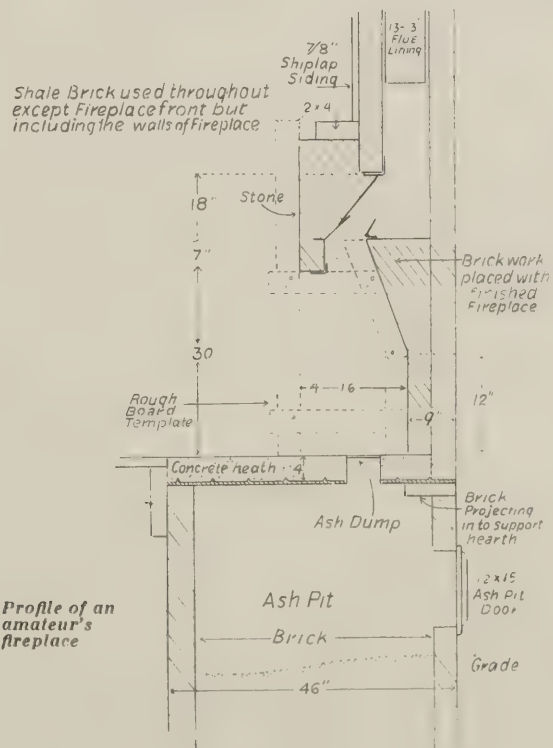


Here is the finished fireplace that has brought comfort and delight to a previously rather bare interior. It is doubly satisfying to the owner, because it is his own handicraft—the product of many hours planning and working; not too arduously so as to destroy the pleasure of creation. The stone for the front are quarried from a hillside on the premises. Single unit corbelling at the corners gives a deft and original touch. There will be no shivering on chilly evenings so long as the wood pile holds out.



Now we see an outside view of the finished chimney. Since the cottage is low and there are tall trees in the near vicinity, it was deemed best to cap the flue with a slab of concrete, supported at the four corners. Eddying gales cannot blow directly down such a chimney. Water does not enter, hence no frost damage in winter, when cottage is unoccupied.

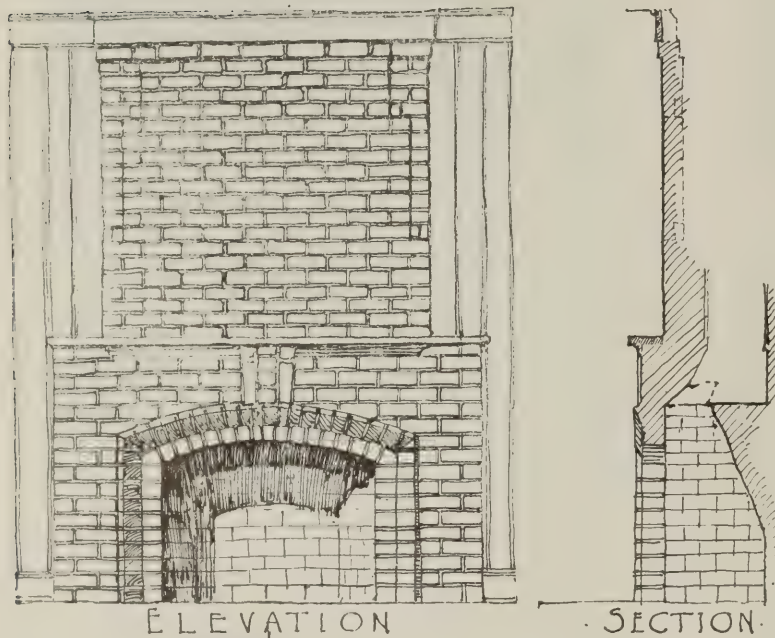
SUCCESSFUL FIREPLACES



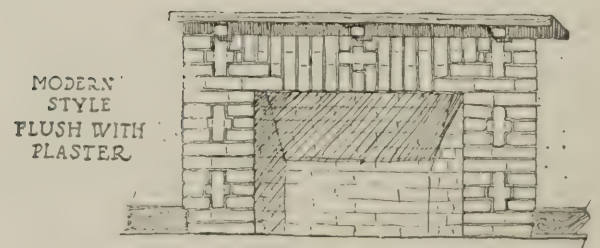
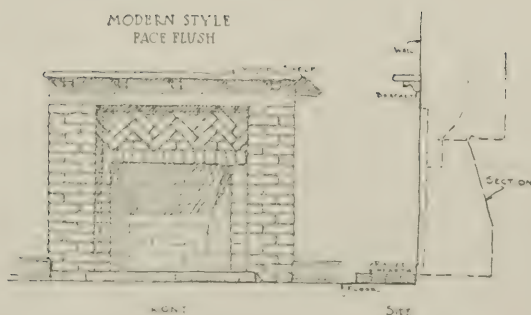
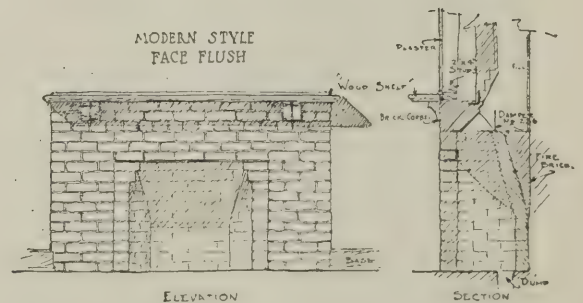
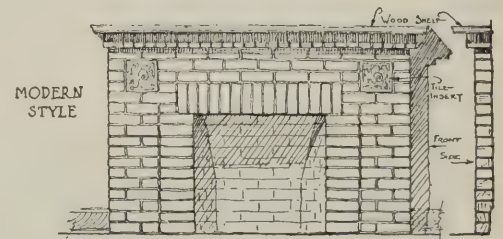
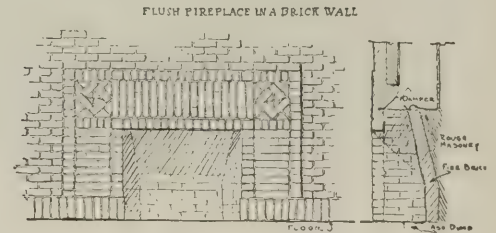
Sometimes the best plans are those drawn after the job is finished and here is a profile drawing that will help any other aspiring amateur mason to tackle his own fireplace problem. It is not likely that conditions on any two such jobs will be the same, so the studious reader will still have a chance to be original.

PORTFOLIO OF FIREPLACE DESIGNS

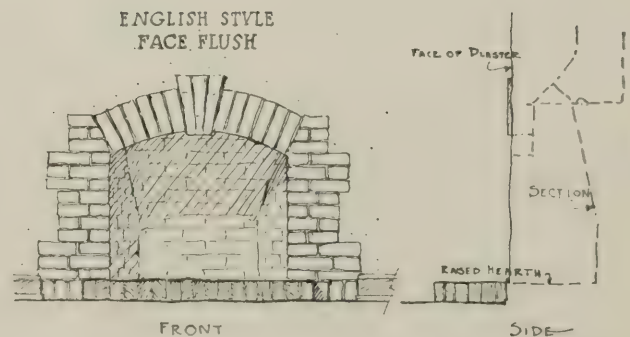
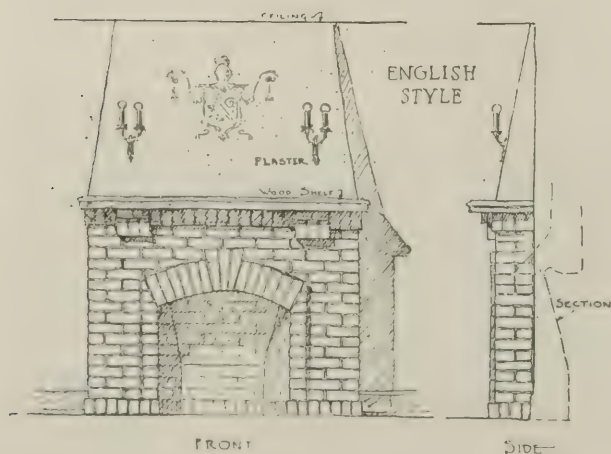
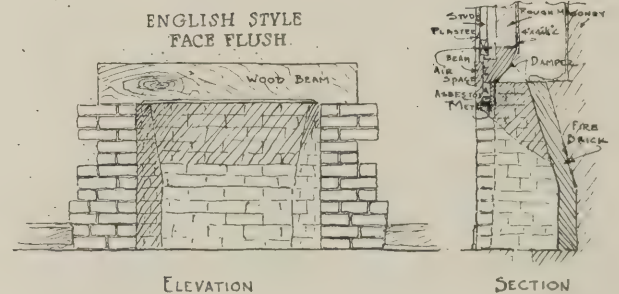
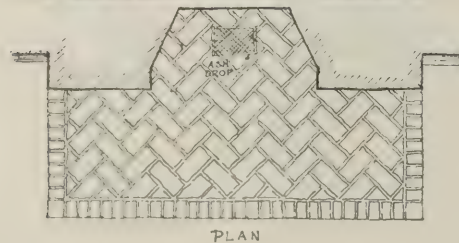
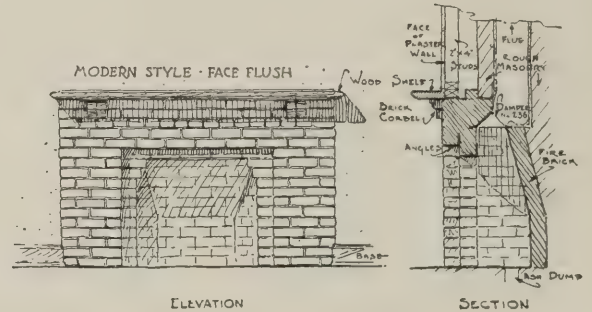
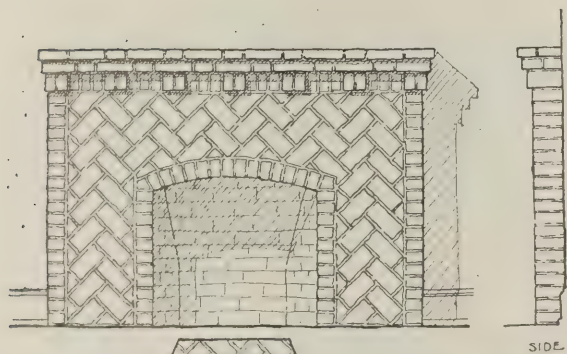
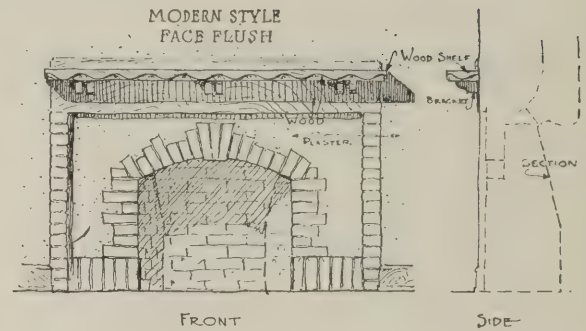
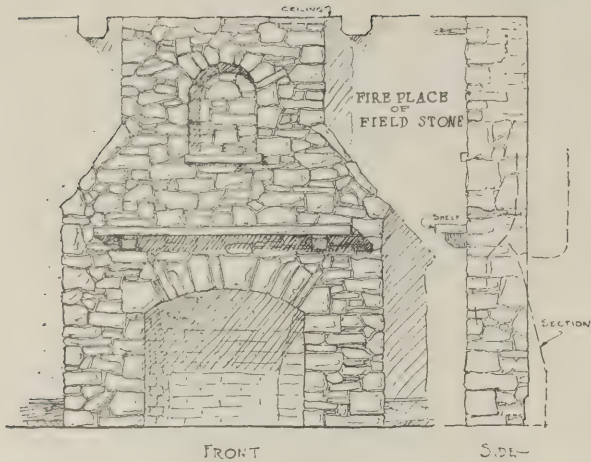
Suggestions for Exterior Masonry Treatment

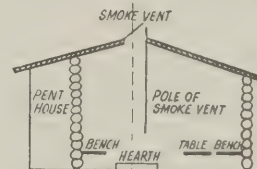
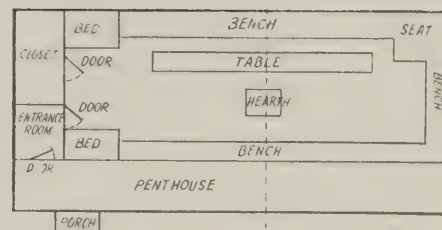
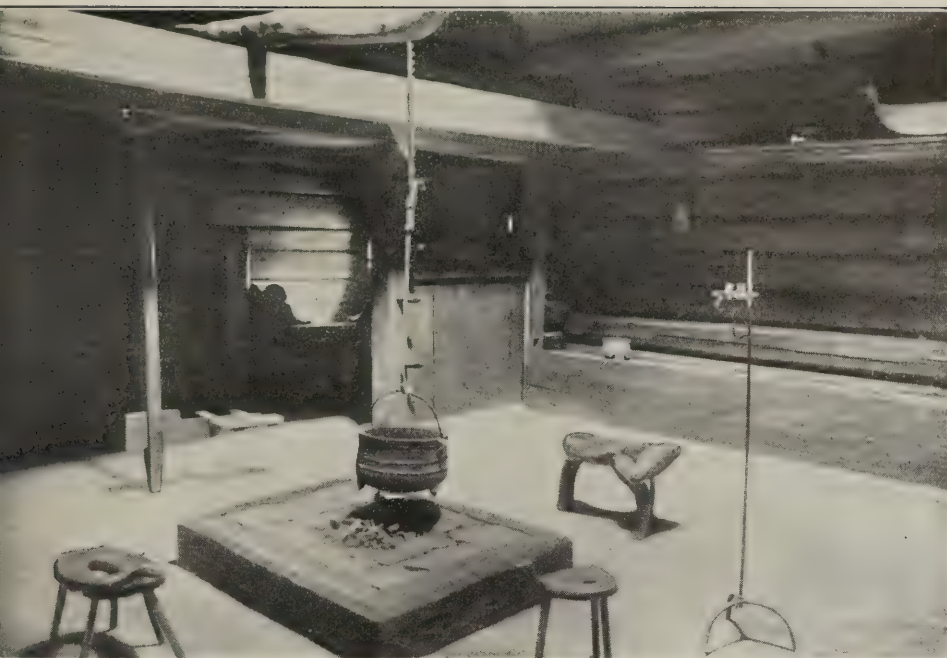


MASONRY CARRIED TO CEILING



MASONRY FIREPLACE DESIGNS





Sketch by Dean Francis Bacon, of the School of Architecture, Western Reserve University, showing plan and profile of medieval Norse dwelling with central fireplace. Photograph shows restored interior in Scandinavian Museum at Lillehammer, Norway.

AN OUTLINE OF FIREPLACE HISTORY

'Tis like stirring living embers
When at eighty one remembers.

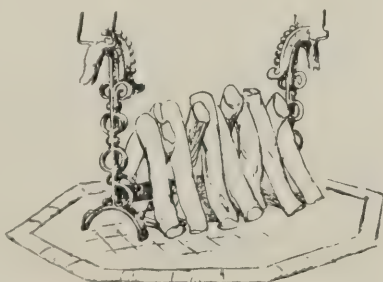
—Oliver Wendell Holmes

You're a King by your own fireside as much
as any monarch in his throne.

—Cervantes

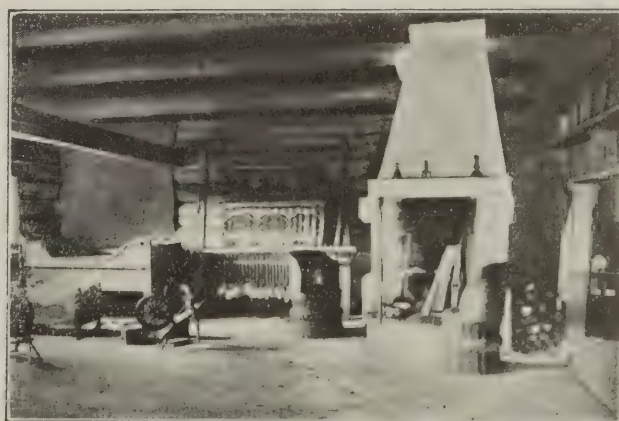
EVERY people known to history have had their fire-place traditions. Indeed, the discovery of means for igniting and using fire marked one of the long steps forward by which primitive humanity found its way to civilized existence. The Greek and Roman classics are dotted with allusions to heating and cooking appliances. It is interesting among other things to know that the word "focus" is the Latin name for a hearth. When we consider our derived use of the term, as "a meeting place for luminous rays," also our more figurative usage as a center of interest, we see the logic of this derivation, for the hearth is truly a focal point of home and family loyalties.

But it is not in the land of classic tradition that we look for the historic source of the fire-place as we know it, since the Mediterranean countries have too sunny a climate to place maximum reliance on artificial warmth. Our fireplace traditions were nurtured



in the long winters of northern Europe, England being the land from which, in the main, America derives its fireplace ideas.

The Central Hearth—In primitive Germanic civilization, as exemplified in the Saxon period of English history, the fireplace was an open hearth in the center of a great hall, which housed the family, the servants and the retainers of the feudal lord. We get an insight into the crudity of those times when we discover that little or no provision was made for the escape of the smoke engendered by such a hearth. It circulated among the rafters and escaped through roof chinks or crude windows.



Also a restored interior in Scandinavian Museum. It shows the hooded fireplace, an early step away from the central hearth type.

SUCCESSFUL FIREPLACES

One of the two quaint pictures from the Scandinavian Museum at Lillehammer, Norway, shown on preceding page, affords a good idea of the central hearth as it existed in northern nations until the fourteenth century and later. With it is a sketch by Dean Francis R. Bacon of the Cleveland School of Architecture. Together they afford an intimate glimpse of home life in more primitive centuries. With it is another picture from the same source that indicates the technique of a later period when the hooded fireplace at the sidewall had been introduced. In each, cooking, sleeping and all the functions of indoor life were pursued in a single room. In very grand homes, the lord and lady would have a separate, unheated, corner bedroom—less comfortable than the retainers' sleeping benches along the wall, because closed against the warmth of the fire.

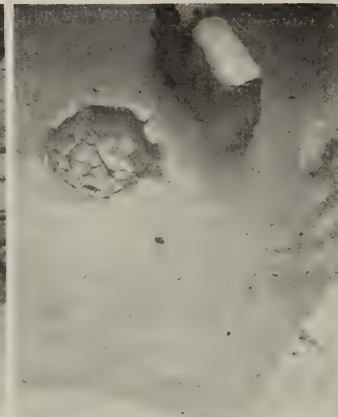
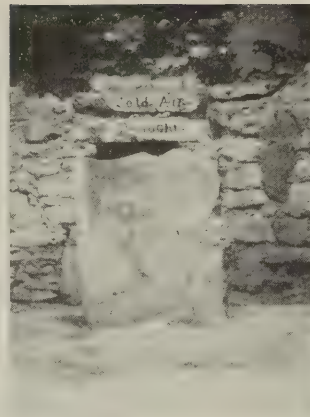
Real Early American—The significance which fireplaces have held for primitive people throughout all periods is illustrated in the mysterious rites of the kiva, still observed among American Indians of the Southwest. The kiva is largely below ground level and roofed over with a hole in the roof that served as door and chimney. The drawing shows the provision for down-draft in a separate shaft, with a baffle. The observances of the kiva form a strictly masculine institution. Sociologists have tried in vain to discover the import of its secret ceremonies. Early Spanish explorers formed the opinion that the interiors were intolerably hot and labeled them "estufas" or stoves.

Early Smoke Louvers—The early central fireplace was both for heating and cooking. It had its counter-part on a smaller scale in the cottages of the peasantry. The one recorded improvement of the period was the erection in some cases of very elaborate louvers over the fire, by which smoke was permitted to escape without the invasion of too much

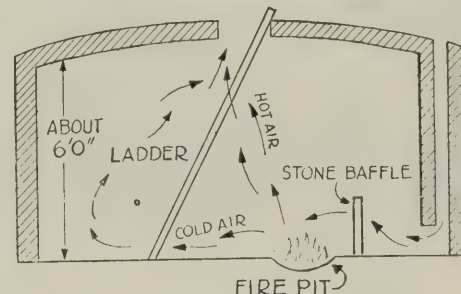


rain and chill. They had a chimney-like aspect from the exterior but with closed top and a variety of lateral outlets for the smoke. It was believed in this period that the smoke from the fire performed a valuable function in hardening the timbers of the house.

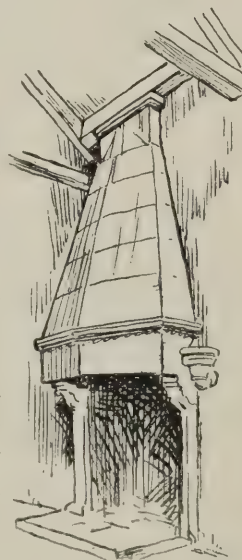
The Hooded Fireplace—In the Norman period England saw its first two-story dwellings, and while in some instances the central hall remained roof high there was an increasing tendency to put the fireplace against the wall, with a sloping stone back and sometimes a mere vent through the side wall for the escape



Photograph and profile of Kiva where Indians of American southwest gather for religious observances that remain mysteries to white men.



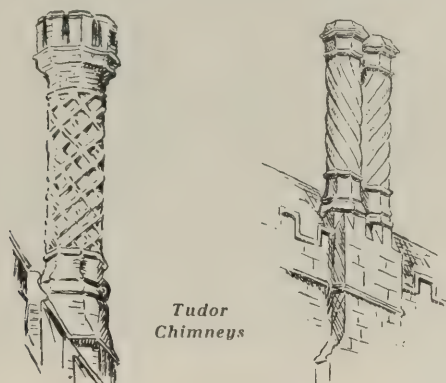
of smoke. From this transient and often unsatisfactory arrangement, the next step was the erection of a chimney with its outlet above the roof. Smoke and fumes were gathered under a hood, often of considerable expanse and usually more than man high above the floor. Gradually the idea of a recessed fireplace succeeded the hood. The fireplace retained its comparative vast proportions and was often designed with ingle nooks at either side, where the inhabitants of the house sat and warmed themselves, actually under the spread of the chimney. Fireplaces of this type persisted especially in cottage architecture down into the Early American period.



Fireplaces Multiply—Meantime, ideas on luxury had so gained that a single fireplace far from sufficed for a baronial mansion. The later Gothic period saw chimneys rising from every side and angle of the great houses of the day, the cause of much conservative lamentation on the score that the race was becoming enervated by so much luxury. The function of the smaller fireplace was recognized and many excellent examples survive. One development of this period was the so-called Tudor chimney, one of the most intricate and characteristic flowerings of late Gothic design. Imagination of the craftsmen ran riot in its

varied forms, many different shapes often being present in the same building.

Development of Design—The history of fireplaces for the ensuing three hundred years is little more or less



than a history of the periods of design which prevailed successively in the various European countries. The Gothic influence was well on its way out under the Stuarts and we next see classic motifs imported from Italy. Carved oak and stone were replaced by paint and gilt. Then came the humanizing influence of the Queen Anne period, followed by the masterpieces of Georgian design, all of them extensively copied in the work of our own day.

Influence of Fuels—Meantime, a variety of influences were at work in regard to the internal and economic aspect of fireplace building, the first of which was the shortage of wood. This led first to the employment of sea coal and later to bituminous coal which came to be extensively mined in Britain and other European countries. A smaller fireplace sufficed. One of the results was an increase in the building of fireplaces of fixed grate type, an art which was possibly carried to its highest degree of perfection in Scotland, where economy is appreciated.

Early Metal Accessories—The andiron is the characteristic metal accessory of the fireplace which has endured from the earliest times. In the primitive, central fireplace, they were of double construction, with a horizontal bar terminating at each end in legs and upright. When the fireplace became a wall recess, the andiron assumed practically the form in which we find it today. Early andirons often exhibited a variety of hooks or other fixtures from which spits were suspended, to use in cooking meat. The bracketed crane, or sometimes a central chain and hook were means by which pots were suspended over the fire.

Changes that came with the introduction of gunpowder can be traced in early fireplace metal work.

This colonial type of fireplace is in the summer cottage of the late H. K. Ferguson in Clare Co., Michigan. Faithful Susie sees that the hearth is swept clean and seems to like it.

SUCCESSFUL FIREPLACES



The influence of the medieval, hooded fireplace is seen in this quaint conception by Nichols and Fritzsche, architects.





There is a charming flavor of early America in this rugged stone fireplace in the home of Amos Moyes, at Lake Cardinal, Ohio, designed and built by the owner.



Authentic Dutch oven fireplace in the century-old home of Francis R. Howe, Mohican Trail, Birmingham, Ohio. Confronting it, today, is the complete electrical equipment of a modern kitchen.

The older andirons, for example, were invariably wrought. That was the day when the trade of the armorer flourished. Casting of iron, practically unknown until the twelfth century, was stimulated by the demand for cannon in the fifteenth and sixteenth centuries, and we then find andirons of cast metal. There is a great wealth of interesting design associated with both types. Some seventeenth century andirons were richly ornamented with gold and silver.

The fireback, a broad and often ornate rear wall for the fireplace, came with the era of cast iron and lasted until our Colonial times. Fuel baskets, either as free units or fixed grates, followed; while the eighteenth century saw many complete metal grates, including walls and fireback—a development that lasted through the nineteenth century.

The Franklin Stove—Two great Americans entered the fireplace scene in the course of the eighteenth century. The first was Benjamin Franklin, who commented as early as 1733 about the shortage of fire-wood in Pennsylvania, good wood being then transported upward to 100 miles. About 1740 he pioneered a complete departure from the fireplace with his Franklin stove, much prized as an antique today, in which the smoke was trapped and brought down to a low position before being discharged in the chimney. It marked a considerable improvement in fuel efficiency, but located as it generally was in front of a walled-up fireplace, it took much from the attractiveness of the fireside.

Count Rumford's Influence—In the closing days of the eighteenth century there arose to fame a man of American birth who, among his other distinctions, became the world's greatest authority on combustion. This man was Benjamin Thompson, born at Woburn,

Massachusetts, exiled during the Revolution with the stigma of Tory and never to return. He was virtual ruler of the Kingdom of Bavaria for ten years. During this time he was an insistent experimenter in the physical sciences and formulated the theory of heat as a mode of motion. Confronted with the problem of providing for a vast indigent population, he founded a house of industry in Munich, where his cooking arrangements were so perfected that a meal for 1,500 people was prepared with a fuel expenditure of less

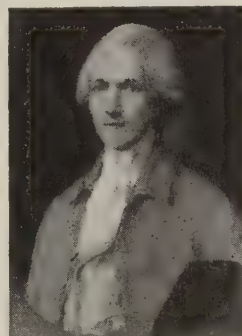


This library fireplace at Sunninghill has an authentic medieval setting. Woodwork for the entire room was transported from an old castle in England, wooden pegs being used throughout. Date of 1590 appears below coat of arms. Opening 45 by 37 inches.



Fireplace history is consummated in the so-called modern designs, of which two excellent examples are shown. The one at the left is in the studio of Earl Horte, Philadelphia. At the right is a fireplace from a model house at Nela Park, near Cleveland, Hays and Simpson, architects.

than a dollar of our money. He was a master in the use of firebrick. His surviving work is full of designs of heating and cooking appliances, kilns, furnaces, foundries, etc. His essays on fireplace building have been collected and published in a small volume within recent years. He is perhaps more responsible for the modern fireplace than any single individual.



Benjamin Thompson, Count Rumford, from Gainsborough portrait in museum of Harvard University.

Returning to London, in 1796, with the title of Count Rumford, he was much sought as an expert on fireplace troubles and at one time testified that there were upward of 500 smoky chimneys under his care. His remedy generally was the reduction of the size of the fireplace, splaying the sides and sloping the back to give a reflector-like aspect to the fireplace interior, the use of a narrowed throat and smoke shelf at the base of the flue. He rejected the metal walls and back in favor of firebrick on the ground that firebrick retained the heat, while cast iron gave it off and caused it to pass up the chimney. All of these principles were recognized in the designs found in succeeding pages of this book.

American Fireplaces—American fireplace practice has offered few departures from that of the mother country. The Pilgrim fathers built wide, deep fireplaces of masonry, usually with one or two Dutch ovens at the side, a feature of whose utility they had opportunity to learn while resident in Holland. Their chimneys were generally without baffle, the smoke ris-

ing directly through a wide outlet. The politer mansions of later Colonial days present all the variations of Georgian influence in their exterior design but usually with that simplification which characterizes the Colonial.

Early in the nineteenth century America was prompt to take up the enclosed stove as an improvement on the open fireplace. The fixed grate type of open fireplace is found in the more luxurious homes of the middle nineteenth century but no longer as a major reliance



Interest in the compact, corner fireplace with raised hearth is revealed in this fireplace from the Eugene Miles Library in Shaker Heights, Ohio. John Sherwood Kelly, architect, who designed it says its spirit is that of the old Nuremberg stove. Upper part of chimney breast is of modeled cement. Tiles are the old Belgian lion of the same type found in the Plantin Museum at Antwerp. Walls are knotty pine, stained brown; ceiling plastered and painted robin's egg blue.



At the left is the tap room and at the right the "ordinary" at Dunham Tavern, Cleveland, see Page 7. Constructed about 1830, these fireplaces and their surroundings have the true Early American flavor.

for warmth, a huge base burner often standing in the same room. There was a long period comparatively barren of fireplace developments, prior to the revival of the hearth in twentieth century home building.

If there seems to be less practical need for fireplaces since the day when central heating solved major heat questions for the majority of homes, the cultural and sentimental necessity has been brought, thereby, into clearer relief.

But it is far from true that America has relinquished its practical need for fireplaces. In the milder climates of the South and of the West Coast, the need for dissolving the chill of crisp mornings and breezy evenings is charmingly supplied by the open fire. A summer cottage needs no furnace, but there is many a day when the warmth of an indoor fire of driftwood or of forest branches, burned upon the hearth, brings cheer in the place of intolerable shivers.

Even in the home most adequately equipped with basement heating plant, occupants experience sub-zero

days when the open fire offers a gratifying addition to the sum total of warmth. At such times utility transcends mere sentiment. The eagerness with which heat saving types of fireplace have been received and the ready demand for a fireplace that would heat every portion of simple structures with several rooms is proof that the days of fireplace utility have by no means departed.

In general, the emergence of fireplace practice from the dark ages of the base burner was accompanied by much misdirected effort on the part of fireplace builders. Many fireplaces revealed the honest mistakes of inexperience—many the results of opinionated error. It is scarcely too much to say that, within the recollection of middle-aged men, there was a time when a majority of fireplaces were marred by sooty evidences of emitted smoke or were otherwise unsatisfactory to their owners. It has been the endeavor of The Donley Brothers Company to aid every sincere seeker for enlightenment on the subject of fireplace construction and gratifying to feel that these efforts have contributed to the improved status of fireplace building today.

The Good Things Wrought in Days Gone By

by The Donley Observer



No flower forgets it has a stem,
No tree is heedless of its root.
And so I often smile at them
That say they do not give a hoot
About the past—in fact decry
The good things wrought in days gone by.

The flowing river needs a source,
The lofty building a foundation;
And if you answer me, "Of course,"
You miss the point of this oration—
That showy things which happen last
Are deeply grounded in the past.

How is it, in a world created
So many million years ago,
That all true worth and wisdom waited
The advent of some folks I know?—
The kind who vent a scornful blast
At any mention of the past.

Of creatures bearing human shape,
The newest is a new-born child;
Quite well advanced beyond the ape
He is, yet fairly reconciled
To draw his sustenance and lore
From those who came a while before.

And so when friendly fires are lit,
I watch bright faces in the glow
All paying with their mirth and wit
Due homage to the long ago—
And think how moderns still attune
Their happiest moods to man's first boon.



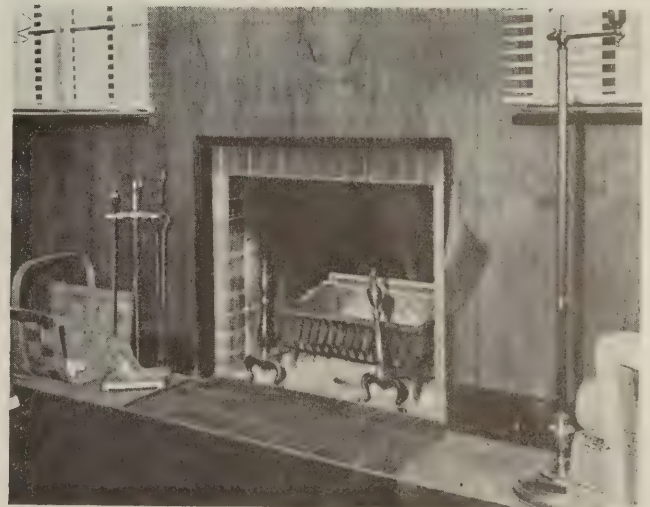
Fireplace in home of Norman J. Stuppe, St. Louis, Mo.



Corner fireplace from the Richard Averill Smith Collection.



Fireplace in residence of Bartlett Cocke, San Antonio, Texas



Fireplace in home of Sprague Mullikin, Terrace Park, Cincinnati, Ohio—Typical of standard adopted by Gunnison Co., of New Albany, Ind., developers, using Donley plans.



*Fireplace in Frank Black home, Mansfield, Ohio.
Monroe Walker Copper, architect.*



In underground home, designed by Chas. A. Kessinger, architect, Youngstown, Ohio. Photo by R. Marvin Wilson.

SUCCESSFUL FIREPLACES



DONLEY HEATSAVER FIREPLACES

THE most efficient fireplace is the one that heats and discharges warm air, utilizing in this manner the heat that might be absorbed by the sides and back of the fireplace, or might escape up the chimney. The Donley Heatsaver is aptly named. It saves heat that would otherwise be lost and by this means greatly multiplies the comfort to be secured from a fire of a given size.

It not only increases warmth, but directs the circulation of heated air where desired, through the location of its outlets and also of its cold air inlets, so that adjoining rooms or rooms above may be heated.

The Heatsaver Fireplace consists of a welded steel unit, with a fire chamber and upper smoke chamber surrounded by a warm air chamber from which heat is discharged through pipes, like a small furnace. It is installed in masonry by the builder and differs little in appearance, if at all, from the usual masonry fireplace. All the beauty of exterior design and charm of the open flame is preserved and combined with the comfort derived from warm air circulation.

Heats Many Low Cost Homes—The Heatsaver serves either as an independent heating plant, or as an auxiliary according to the structure in which it is located and the purposes of owners. Many low cost homes are heated through severe winters by Heatsaver fire-

places with satisfaction to enthusiastic owners. In milder climates, it is often the sole heating device in





In a secluded spot in the eastern portion of Cuyahoga County, Ohio, Dr. Paul Albrecht has built a rambling, one story home that is largely heated by this Heatsaver fireplace. Heat is ample, says the owner. In fact he has to exercise caution in the size of the fire or the interior gets too hot for comfort.

larger residences. It is highly regarded by cottage owners whose need for heat is seasonal or occasional, but who want cheery warmth quickly when they want it at all.

Aid to Heating Economy—Ability of the Heatsaver to bring comfort to a sizable interior is a great source of economy in homes that have a central heating plant. It relieves the furnace or boiler during the chilly months of the spring and fall when the maintenance of a furnace fire would be burdensome and costly.

Refuge in Holiday Areas—The many clubhouses and lodges that dot the seaside, mountain and forest resort areas all need a means of quick and gratifying warmth when a day of yachting, fishing, skiing or hunting comes to an end and it is time to gather and swap

experiences. The Heatsaver affords the warmth, the bright glow symbolic of fellowship. It utilizes whatever the country affords in the way of driftwood or forest wastes.

For Week-End Cottages—Among the most loyal friends of the Heatsaver are owners of rural cottages used for week-end relaxation. Such cottages are becoming constantly more abundant in every rural area surrounding centers of population. Some are extremely simple structures of one or two rooms—some are quite pretentious and designed for hospitality. Equipped with a Heatsaver, such a cottage is ready for every emergency of temperature. Guests will not only enjoy a bright flame through convivial evenings,



The home of Mrs. Burnetta Carroll in Shaker Heights, Ohio, has a recreation room arranged and decorated by her daughter, Mrs. Johnson. A Heatsaver fireplace keeps it cozy.



Mrs. Helen J. Faber says she greatly appreciated the warmth of this Heatsaver in her Ft. Lauderdale, Fla., home during the cold winter of 1940.

SUCCESSFUL FIREPLACES

but will be sure of sleeping in comfort.

Useful in Public Buildings—Churches require large central heating plants that are fired when the auditoriums are occupied. At other times there is need for localized warmth in administrative and institutional quarters—a need which the Heatsaver is well qualified to fill.

In any institution where it is desired to maintain the atmosphere of fellowship an open fire is of great advantage. Use of the Heatsaver combines this spiritual effect with the practical object of well distributed heat.

In such uses as these, the Heatsaver will avoid the need of firing an expensive plant during many days when the needs call only for the heating of a room or two, or in seasons when a fire of moderate size suffices.

Means a Better Fireplace—Wherever there is need for a fireplace, the Heatsaver means a better fireplace, giving greater value for fuel consumed, beside assur-



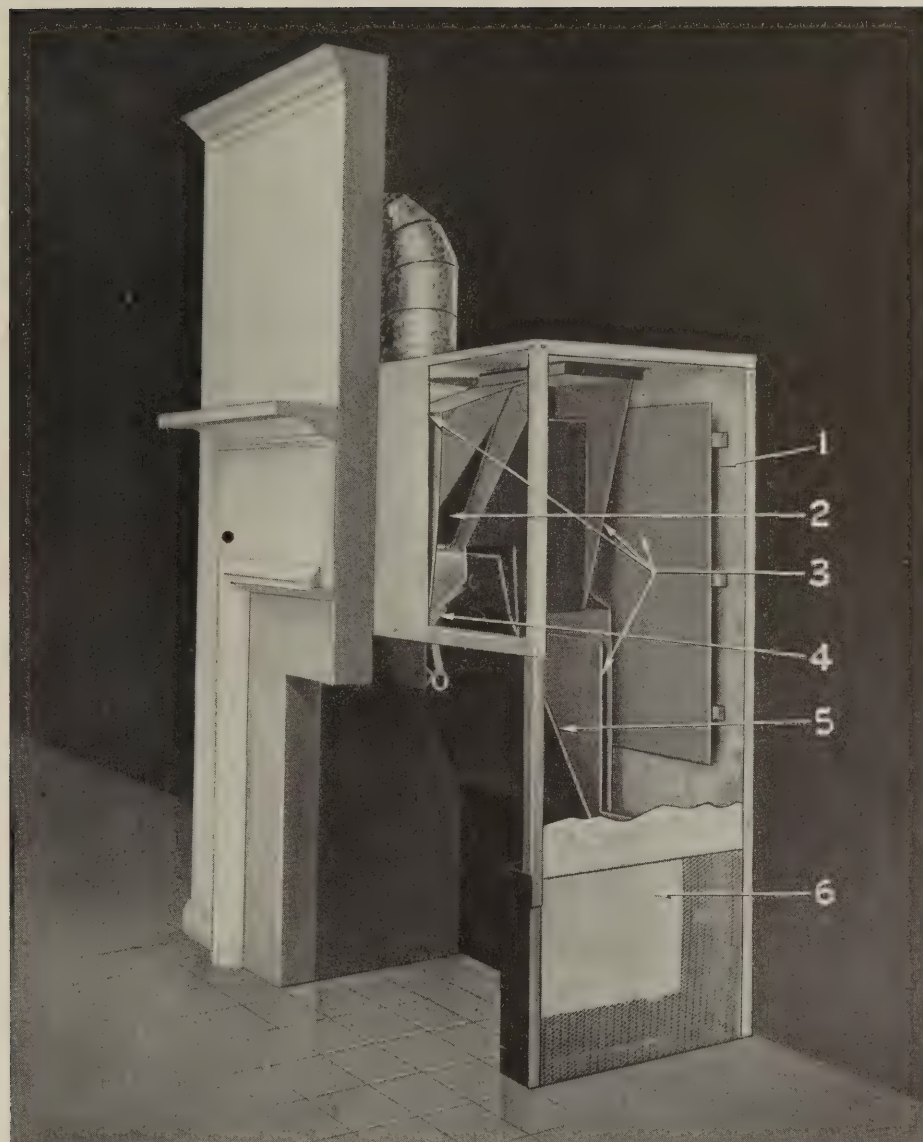
Heatsaver fireplace at Henry C. Zuengler home, Strongsville, Ohio. Besides the outlets over the mantel, there are two more on the second floor.

ing in advance a correctly formed fireplace interior that minimizes the chance of operating troubles.

It is necessary to appreciate the difference between direct radiation from the open flame and the circulation of heated air. Direct radiation cannot warm the air of a room, except by heating surfaces (such as the floor and furniture) with which the air comes in contact. By heating a large area of metal surface, the Heatsaver is able to discharge a generous supply of hot air from its outlets. Such air pervades every portion of the room. The "cold corners" associated with fireplace heating are comfortably heated when the fireplace is a Heatsaver.



Heatsaver fireplace in the game room of A. C. Birkmeier residence, Ft. Wayne, Ind., Pohlmeier & Pohlmeier, architects. One outlet from this unit communicates with a floor register in the hallway above.



Section Shows Construction of Heatsaver

1. Large warm-air chamber.
2. Warm air duct through smoke chamber that equalizes the heat.
3. Baffle sheets keep outer shell cool and increase delivery of heat through ducts.
4. Donley poker control damper.
5. Quarter inch steel plate used for smoke shelf and back of fire chamber.
6. Cold air inlet screened to prevent entrance of rodents.

Installing the Heatsaver

DURING the suspended production of the war period, the Heatsaver was redesigned and the unit illustrated above differs from those previously shown. Principles are not affected and the effect on installation is slight. The motive has been to increase the exposure of interior metal to the warmth of the flame, for a given size of fireplace opening.

In doing this, we have departed from the characteristic shape of the fire chamber that distinguishes the Donley masonry designs. The sides are not splayed. The purpose of splaying in a masonry fireplace is to promote the reflection of heat into the room from the back wall and sides. But in the Heatsaver, reflected

heat is a secondary object. The heat which passes through the metal wall of the fire chamber, heating the air in the surrounding air chamber, is the more important object.

This permits wood fuel to be burned at its full length, either at the front or back of the fire space.

Beside this, the smoke chamber has been re-designed with an improved passage that utilizes the heat just above the damper, affording circulation through from front to back.

Both the regular Donley Fire Basket and the Heatsaver Fire Basket are described on Page 53.

Control of Circulation—The first problem confronting the designer of a home employing a Heatsaver is the use he is to make of the circulated heat which the unit affords. Six suggestions are offered here, in the form of full page designs that embody simplified floor plans for low cost homes.

The metal outer case of the Heatsaver is made to be pierced for outlet pipes, as is a furnace, the usual number of outlets being two.

The Outlet Question—Location of a Heatsaver generally involves consideration of the whole floor plan. If it is to heat other rooms than the one in which it is located, an interior position for the fireplace chimney is to be preferred. Three of the designs shown here are of that type. If only the immediate room is to be considered, a chimney in the outer wall may be chosen.

The question of projection also arises. Many architects prefer that the outlet grilles, which are necessarily somewhat above the level of the Heatsaver casing, should not be unduly conspicuous. Location at the side of a projection solves this problem. Installations may be cited where grilles are further masked by location in shelving, on which pottery or art objects are not too closely grouped, so that the warm air is not obstructed. However, outlet grilles above a fireplace are becoming more accepted through custom and, in many cases are presented for what they are, in a tint that harmonizes with the wall tones.

Question of Circulation—The purpose of the location of grilles is to assure the most effective circulation of heat. When the upper outlets discharge in adjoining

rooms, the travel of air back to the inlet grilles must be considered.

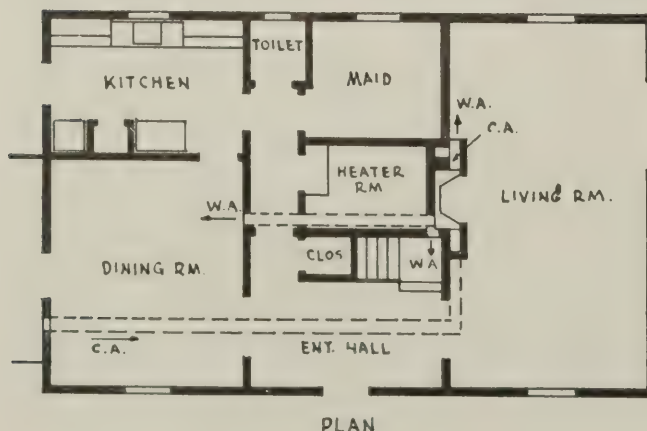
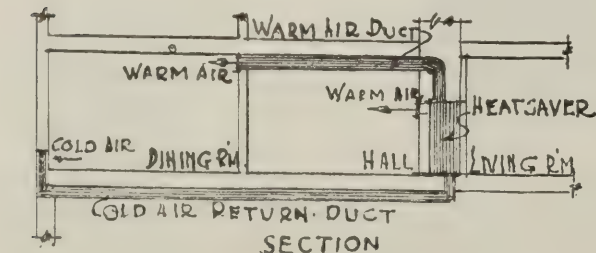
Inlet grilles are located so near the floor that few esthetic questions are involved in placing them. They do influence the distribution of warm air to a marked degree. If an outlet discharges into a bedroom on the opposite side of the wall, and the bedroom door is kept closed, circulation will be impeded. In such cases, it is well to place an inlet also in the same room, so that circulation can be completed. If discharge is made into a room that connects with the room immediately heated by an open arch, the location of the inlet is not so important.

Use of Long Conduit—In general, the Heatsaver should be relied upon for heating the immediate room, or rooms above or adjoining the one in which the unit is located. However, success has been reported in a number of cases where warm air has been conducted across intervening space to a room beyond.

Use of a long, horizontal warm air pipe should be undertaken with judgment and caution. The best assurance of success comes through locating a cold air inlet at the opposite side of the room to be heated.

In fact, the use of a long cold air conduit is one of the surest methods of promoting circulation, even where the warm air outlet is in the immediate vicinity of the Heatsaver. Such a conduit is most easily located beneath the floor. Since its function is to conduct cold air, it can be made of any material, lumber, plywood or wall board. The mere enclosing of space between two joists accomplishes the purpose, providing there is proper access to a well located inlet.

The Sanford Fox residence, pictured here, offers an example of such a conduit. Another that has come to our attention is one that has been installed in the



Sanford Fox at Ocean City, N. J., owns this home in which dining room beyond 10-foot hall is heated by Heatsaver. Note how cold air is drawn from opposite side of dining room.





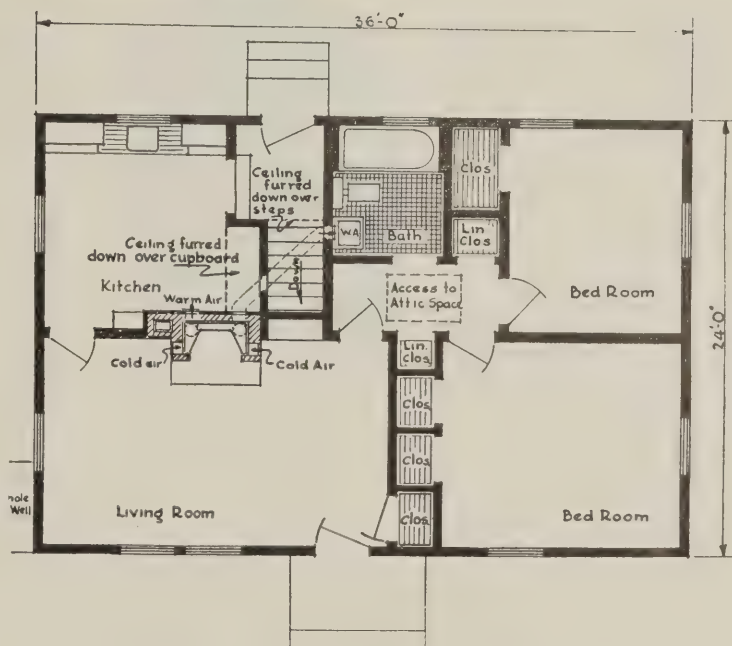
Low cost home in Northfield, Ohio, where Heatsaver carries the whole heating responsibility, under ordinary conditions, serving bathroom and kitchen as well as living room.

dining room of Luders' Log Cabin, a public eating place at Elma, New York. The Heatsaver Fireplace, pictured below, spreads its warmth over a large area because of a cold air inlet located on the opposite side of the room.

Some of the illustrations show a warm air outlet centrally located beneath the mantel. This was formerly an optional feature of the Heatsaver, but was found to involve complications in the method of installing and is no longer recommended. Omission involves no sacrifice of warmth as the passage through the smoke chamber at this level still remains and its heated circulation passes upward and out through the higher grilles.

Heating Small Residence—Many so-called low cost homes are being heated by Heatsaver Fireplaces with little or no assistance from other heating installations. That pictured at the top of this page is an example. It occupies a rural site in Northfield, Summit Co., Ohio. There is a small oil furnace in the basement, but when the Heatsaver is lighted, the thermostat on the oil heater usually shuts it off, excepting in the coldest weather.

In such installations, it is best to locate the Heatsaver against an inside partition, rather than an outer wall. The floor plan shows that heat is discharged into the kitchen at the rear of the Heatsaver, also by a pipe above the cellar stairs, to the bathroom. Return of air to the inlets located in the living room probably promotes a general circulation through the interior more effectively than could be done with a long return conduit.



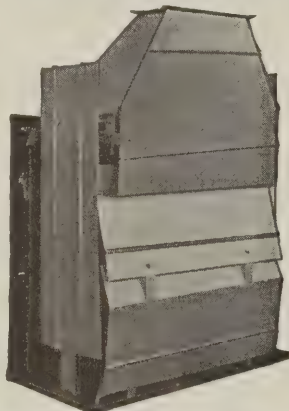
"I believe I have the most economical and efficient fireplace ever built," says Elmer Luders, proprietor of Luders' Tavern, Elma, N. Y. Built by Mason Contractor Herbert Schmidt of East Aurora, this fireplace has its cold air intake on the opposite side of a large dining room, thus drawing heated air across the room.

SUCCESSFUL FIREPLACES

Construction of the Heatsaver—There has been no compromise in making the Heatsaver a staunch, lasting unit. It consists of an inner fire chamber and smoke chamber above it, all surrounded by a metal shell which encloses the warm air chamber. The heating man who installs your Heatsaver will pierce this outer shell in connecting the heating pipes.

The back of fire chamber and the smoke shelf are of $\frac{1}{4}$ -inch steel plates. The balance of the smoke chamber is of No. 12 gage steel, while the outer shell is of No. 2 gage steel.

Between the inner unit and the outer shell are convection sheets, shown at the right, whose purpose is to increase the heated area of metal over which the air passes. It also keeps the outer shell cool and completely avoids any danger of fire to materials that come in contact with it, so long as circulation is maintained.



This shows the Heatsaver unit with convection sheets attached, but without the outer shell. These intermediate surfaces greatly increase area of heated surface and deep outer shell from becoming dangerously hot.

Selecting the Proper Size—In choosing a Heatsaver for a given location, consideration must be given to

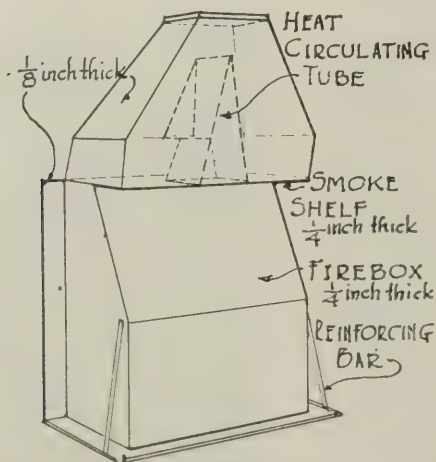
TABLE OF SUGGESTED SIZES

Size of Room in Feet	Heatsaver Size When Located On	
	Short Wall	Long Wall
10 x 14	No. 26	No. 26 — 30
12 x 16	" 26 — 30	" 30 — 34
12 x 20	" 30 — 34	" 34 — 42
12 x 24	" 30 — 42	" 34 — 42
14 x 28	" 34 — 42	" 42 — 48
16 x 30	" 34 — 42	" 48 — 54
20 x 30	" 42 — 48	" 54 — 60

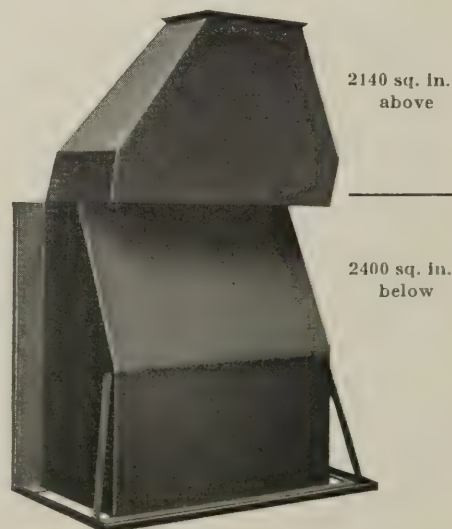
(1) the cubical contents of the room in which it is located and (2) that of the whole space to be heated, the space available (3) for the fireplace itself and the extent of reliance (4) on fireplace heating as well as (5) the size of the flue.

It is not possible to reduce such a calculation to mathematical terms since a final determining factor in the effectiveness of the Heatsaver is the size of fire that the owner chooses to build. If typical fires are of moderate size a large Heatsaver unit is probably less effective than a smaller one, since in the latter case the flame is in closer contact with the metal walls through which heat is convected. Remarkable heating efficiency is reported from units of 34 inch opening or less where a lively fire is maintained. The table above may be helpful, as a starting point of calculations.

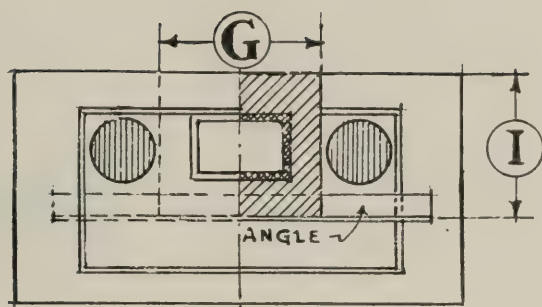
Reasons for
Heatsaver's
Superior
Heat Output



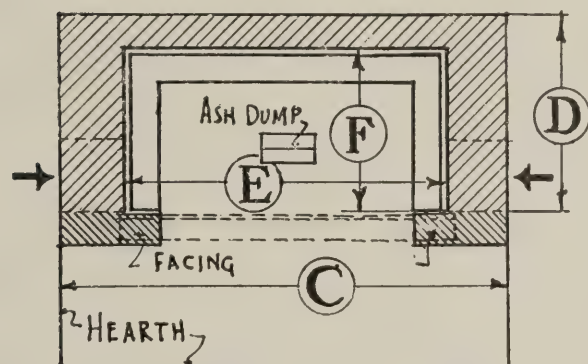
The drawing corresponds to the view at the right, each showing Heatsaver unit with outer shell and convection sheets removed. The triangular tube or duct that carries air through the smoke chamber is important to maximum heat delivery.



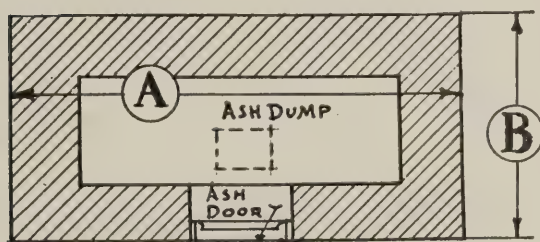
This illustrates an advantage of the Heatsaver, the large percentage of heat delivery from heated surfaces above (as well as below) the smoke shelf. The measurements given are for the No. 34 unit.



PLAN ABOVE HEATSAVER



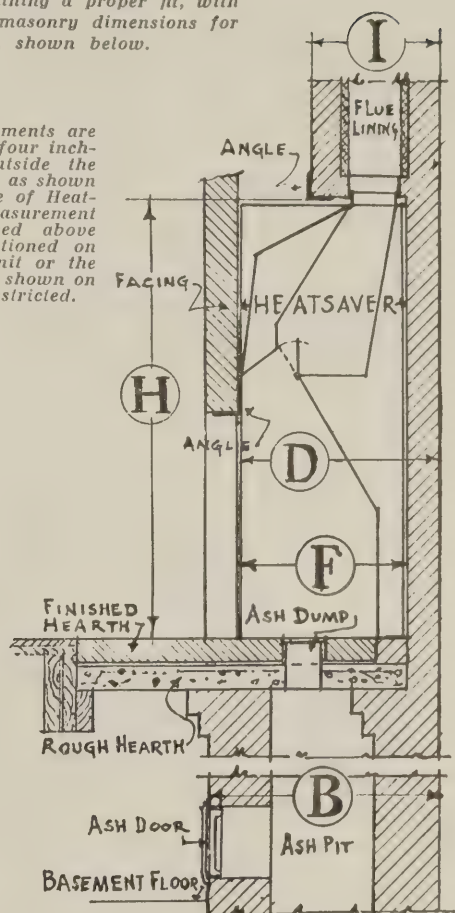
PLAN ABOVE HEARTH



PLAN BELOW HEARTH

Plans of Heatsaver installation at three levels assist the designer and installer in obtaining a proper fit, with aid of rough masonry dimensions for different sizes, shown below.

G and I measurements are for a minimum of four inches of masonry outside the standard flue lining as shown below for each size of Heatsaver. The G measurement cannot be increased above the minimum mentioned on the 26" and 30" unit or the warm air outlet, as shown on drawing, will be restricted.



SECTION ON CENTER LINE

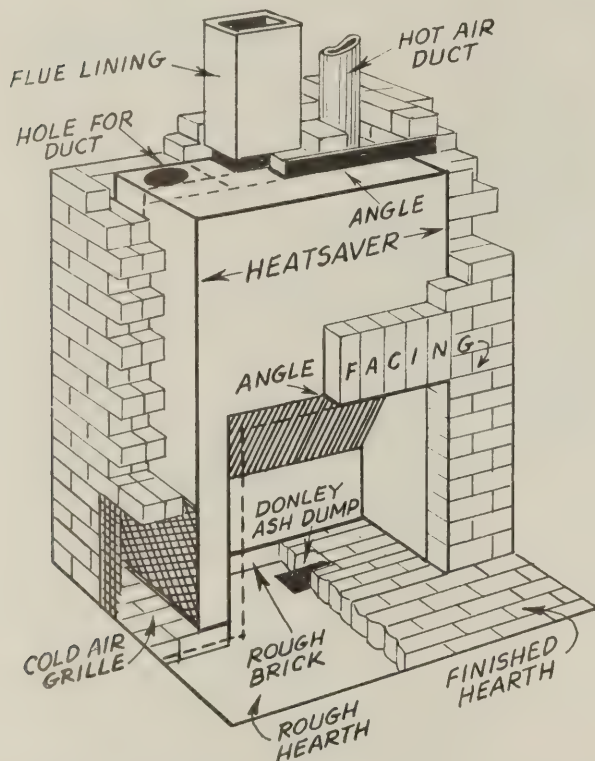
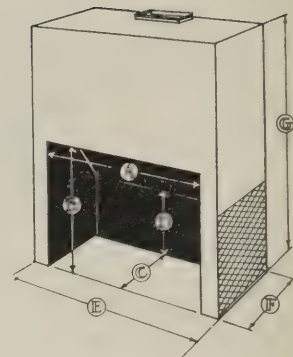
ROUGH MASONRY DIMENSIONS FOR BRICK CONSTRUCTION

Heatsaver Number	Below Hearth		Above Hearth		Heatsaver Recess Dimensions			Flue Size
	Width	Depth	Width	Depth	Width	Depth	Height to Lintel	Over-All Dimensions
	A	B	C	D	E†	F	H	
26	50	30	50	26	34	22	52	8½ x 8½
30	55	30	55	26	39	22	56	8½ x 13
34	59	30	59	26	43	22	56	8½ x 13
42	67	32	67	28	51	24	63	13 x 13
48	75	32	75	28	59	24	63	13 x 13
54	83	35	83	31	67	27	81	13 x 18
60	89	35	89	31	73	27	81	13 x 18

Notes—†This measurement is one inch more than size of unit. Center of flue should be directly above center of dimension. Regarding dimensions G and I, shown at upper left of sketch, these will vary with the character of the face material. See note above.

Dimensions of the Unit—Before deciding finally what size to use in a given location, a designer will want to know all the dimensions to be incorporated in his design. The table at the right, with the reference diagram, will give the needed information. On the question of projection into the room the designer will get help from three plans at the bottom of the page.

Heat-saver No.	HEATSAVER DIMENSIONS							Shipping Weight
	A	B	C	D	E	F	G	
26	26	24	16	16	33	21	51	308
30	30	28	16	16	38	21	55	355
34	34	28	16	16	42	21	55	395
42	42	30	18	16	50	23	62	500
48	48	30	18	16	58	23	62	565
54	54	34	20	18	66	26	80	890
60	60	34	20	18	72	26	80	1030



Method of Installation—Formerly we have described a method by which the rough masonry niche was completed first and the unit backed into it. Testimony of architects and builders convinces us that it is generally best to locate the unit on the hearth first and build the masonry around it. This avoids the difficulty of backing a heavy unit within close tolerances.

Location of Cold Air Inlets—The outer wall of the metal Heatsaver unit has large open areas at the lower portion of each side. They are screened with expanded metal to prevent entrance of vermin.

The purpose of these screened openings is to afford access of cold air. They are made much larger than the actual, visible cold air inlets, in order to give freedom in the placing of those inlets.

The inlets take the form of metal grilles. A variety of shapes and sizes are available.

Where the fireplace is flush with the wall it is usual to locate the grilles each side of the fireplace opening and near floor level.

If the fireplace projects from the wall it is usually possible to locate grilles in wall projection, so that they will be less conspicuous.

They are often masked by shelving or built-in cabinets so as to be practically invisible.

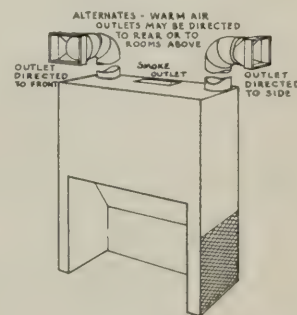
It is most important, however, to have them large enough and to avoid any arrangement that interferes with the flow of air. An ample outflow of warmed air is better than a smaller flow of hotter air. Plenty of inlet space assures this object.

An Important Principle to bear in mind is the fact that warm air, from the warm air outlet, tends to circulate in the direction of a cold air inlet. If such outlet is located in an adjoining room, the result is circulation through both rooms. Rarely is it advisable to locate cold air inlet at a distance from the unit. Exceptions are shown in the case of Luders' Tavern, on page 37, where it was necessary to circulate heat across a wide dining hall. Also on page 36 is the case where conduit is carried past an intervening hall to heat a room beyond.

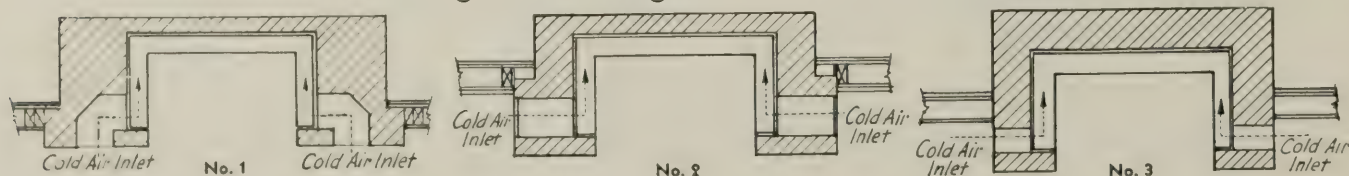
Both of these cases are described in the text near the illustration. In other, more typical cases, however, the effect of bringing inlet near the outlet might be to short circuit the warm air.

Note Suggested Designs—On pages 43 and 44. In No. 4, the inlet is located in an adjoining room, to assist in warming kitchen-dining room and bath.

Arrangement of Warm Air Outlets—The outer shell of the Heatsaver is meant to be pierced for pipes, as in furnace practice. Two round outlet pipes on the two ends of the top satisfy any but the most exceptional requirements, since they can be carried to any height and turned forward, sideways or to the rear. Round pipes are suggested, since they afford maximum capacity for a given diameter and since all fittings are

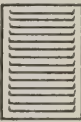



Showing three arrangements • cold air inlets



Necessary Equipment for Installing Heatsaver Fireplace

(All Dimensions in Inches)

Fireplace Opening and No.	Ash Dump No.	Ash Pit Door	Steel Angle for Fireplace Opening	Steel Angle for Chimney	 Cold Air Intake Grilles No. 57 Steel Installed as A, C, D, E, B	Upper Warm Air Outlet Grilles	Round Warm Air Ducts from Unit to Outlet Grills	Outlet Boxes at Upper End of Ducts
			C—3x3x $\frac{3}{16}$ D—4x3x $\frac{1}{4}$	A—5x3 $\frac{1}{2}$ x $\frac{3}{16}$ B—6x4x $\frac{3}{8}$		 No. 53 Steel	See Note	
26x24 No. 26	58	12x10	C-30	A-45	{ Use 2 No. 57 9x13 Or 2 No. 57 6x19	Use 2 No. 53 11 $\frac{3}{4}$ x 9 $\frac{1}{4}$	8	10x8
30x28 No. 30	58	12x10	C-36	A-50		Use 2 No. 53 11 $\frac{3}{4}$ x 9 $\frac{1}{4}$	8	10x8
34x28 No. 34	70	12x10	C-42	A-54	{ Use 2 No. 57 9x15 Or 2 No. 57 6x23	Use 2 No. 53 11 $\frac{3}{4}$ x 9 $\frac{1}{4}$	8	10x8
42x30 No. 42	70	12x10	C-48	A-62		Use 2 No. 53 11 $\frac{3}{4}$ x 9 $\frac{1}{4}$	8	10x8
48x30 No. 48	70	12x10	D-54	A-70	{ Use 2 No. 57 9x19 Or 2 No. 57 6x29	Use 2 No. 53 13 $\frac{3}{4}$ x10 $\frac{1}{4}$	9	12x9
54x34 No. 54	70	15x12	D-60	B-78		Use 2 No. 53 13 $\frac{3}{4}$ x10 $\frac{1}{4}$	9	12x9
60x34 No. 60	70	15x12	D-66	B-84		Use 2 No. 53 13 $\frac{3}{4}$ x10 $\frac{1}{4}$	9	12x9

Note: Galvanized piping and tinned outlet boxes for warm air outlets supplied when ordered. If a sketch of proposed installation is sent, we will figure quantity of piping necessary.

On orders where pipe, elbows and outlet boxes are included, but the number of each required is not indicated, the following quantities of appropriate sizes, being sufficient for the average installation, will be shipped:

2—2'0" Lengths of pipe
2—1'0" Lengths of pipe

4—Adjustable elbows
2—Outlet boxes

Optional Equipment

(Should Be Considered Before Calling Order Complete)

Equipment	Heatsaver Number						
	26	30	34	42	48	54	60
Fire Basket	25"	29"	33"	41"	41"	41"	57"
Log Rests..	16"	16"	16"	16"	16"	20"	20"
*Crane	No. 1	No. 1	No. 2	No. 2	No. 3	No. 4	No. 4

Note: *Supporting lugs are welded to side of unit at factory at no extra charge if crane is ordered with Heatsaver.

usually available anywhere. If necessary to change to rectangular pipe to meet a particular condition, it is recommended that round pipe be carried up from the unit to the place where it is necessary to change and the change effected there with a foot piece.

Equipping the Heatsaver—Often we receive orders for a "No. 34 Heatsaver" and find that the person ordering believed he had sent a complete order. As a matter of fact, every installation calls for certain supplementary equipment which depends on conditions and preferences unknown to us. Study carefully the table above. Two steel angles are required. Warm air ducts and grilles must be provided as well as inlet grilles for cold air. An ash dump and ash-pit door are standard items on any fireplace. Optional equipment is separately indicated. The sample order at the right may be studied, further, to guard against oversights in ordering.

Suggested Sample Order for Heatsaver Fireplace and Equipment

Note: Be sure to specify type of grilles and whether Heatsaver is to be with or without center outlet.

1	No. 34 Heatsaver
1	No. 70 Ash dump.
1	12x10 Ash-pit door.
1	3x3x $\frac{3}{16}$ x42" steel angle.
1	5x3 $\frac{1}{2}$ x $\frac{3}{8}$ x54" steel angle.
2	No. 57 grilles 9"x15".
2	No. 53 grilles 11 $\frac{3}{4}$ "x9 $\frac{1}{4}$ ".

OPTIONAL ADDITIONS

2	24" lengths of 8" galvanized pipe, K.D.
2	12" lengths of 8" galvanized pipe, K.D.
2	Elbows of 8" galvanized pipe.
2 or 4	Outlet boxes, double tin 8"x10".
1	30" fireplace basket.
1	No. 2 crane.
1	Fireplace Screen No. 1, 36"x29".
1	Andirons No. 158.
1	Fireset No. 248.

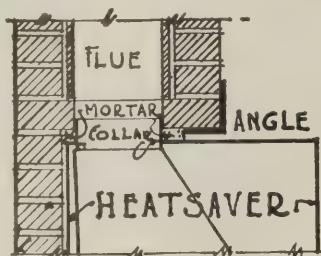
SUCCESSFUL FIREPLACES



The suburban home of Dr. Earl D. Cumming at Gates Mills, Ohio, has the form of a spacious log cabin and is warmed by this Heatsaver Fireplace shown above . . . At the right is a modernistic treatment of the Heatsaver in the display studio of Harvey G. Stief, Inc., Cleveland. Circulated heat warms the workshop in the rear.

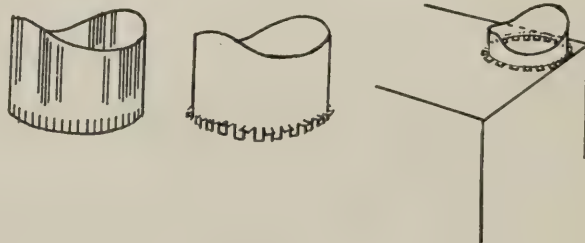


Attaching Flue—If the unit is put in place before the brickwork is erected, the fitting of the flue to the Heatsaver should not cause any complications. It is facilitated by a mortar collar projecting above the Heatsaver. Care should be taken to see that mortar and debris do not get into the unit itself. Note also that the front chimney masonry is supported on an angle, not by the body of the unit.



with many installations. Write us about your heat circulating fireplace problems and we will answer to the best of our ability.

Method of Attaching Pipes—A good way to attach pipes is to snip narrow leaves around the bottom and turn up alternate leaves to form a flange. After seating the pipe on this flange, reach down through the section of pipe and turn up the leaves that pass through. The joint can then be finished with a collar of asbestos fabric, cemented in place. Sketches below indicate three steps.



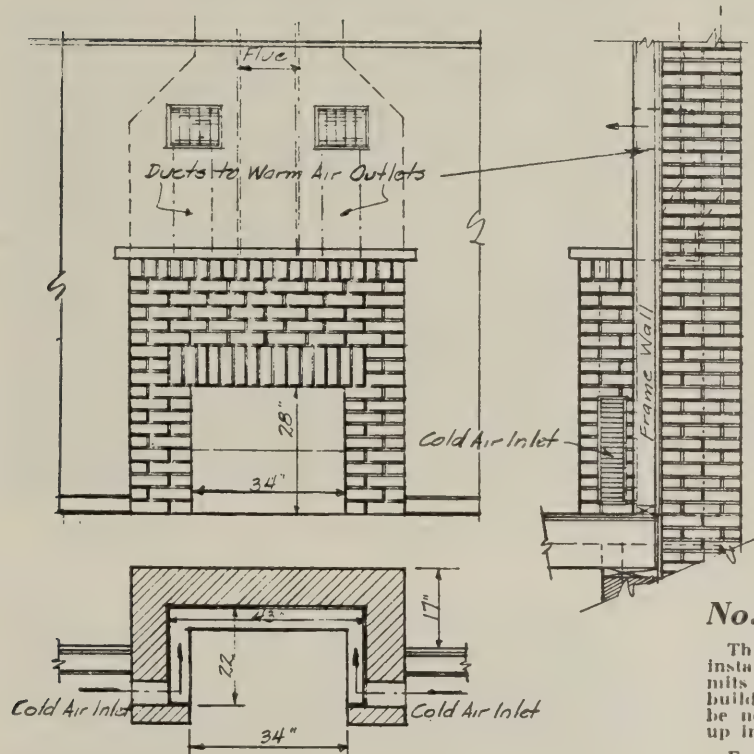
Helpful Donley Service—The Donley Brothers Co. hopes that its customers will make use of the Heatsaver's adaptability to varying conditions of layout. The Donley service department is glad to make suggestions of the way to meet different situations and to answer questions from the standpoint of experience.

The Donley Observer Praises Indoor Weather

*The secret of weather that maddens or pleases
Is largely bound up in a study of breezes.
With fullest respect to the calendar's function;
Admitting that latitude rules in conjunction—
That cycles and sunspots will merit our care,
I insist that cold comes on a blast of cold air.
It likewise is true that a warm, genial day
Will surely arrive if the wind is that way.
Make me lord of the winds and I'll guarantee weather
That satisfies mostly, if not altogether.*

*But since that distinction has never been mine
I make my own climate, all days being fine.
I give not a hoot for the chill or the snow,
When snugly ensconced in the Heatsaver's glow.
The breezes that come from its generous grilles,
Make up my prescription for wintertime ills.
You may have your Bermuda, your Florida bays,
Your far San Diego. I'll stick to my blaze;
Its radiant beams with its breezes combine
To tickle my tummy, envelop my spine.*

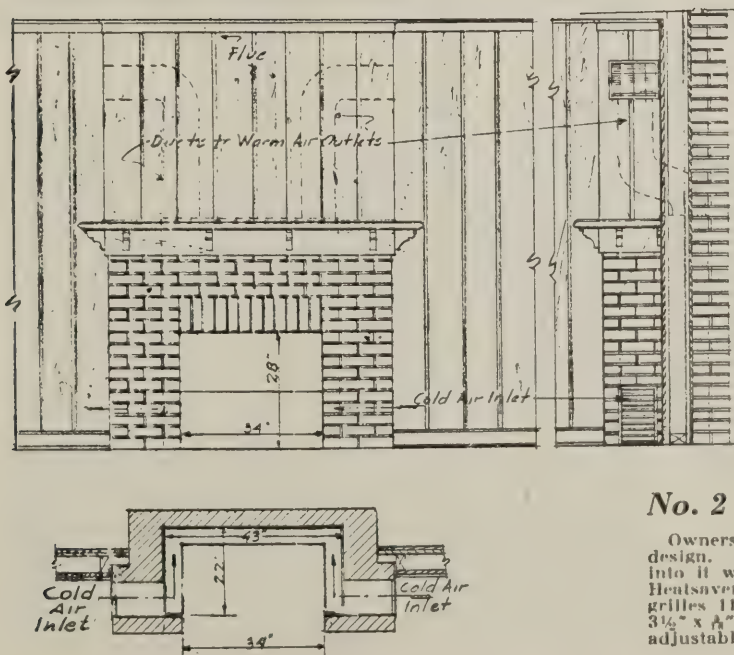
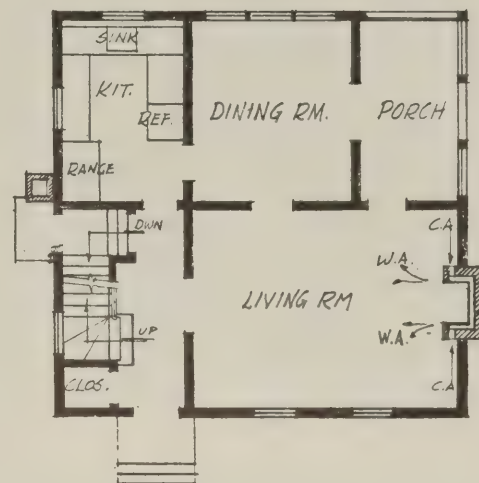
Suggested Heatsaver Fireplace Designs



No. 1 Where Fireplace is Lacking

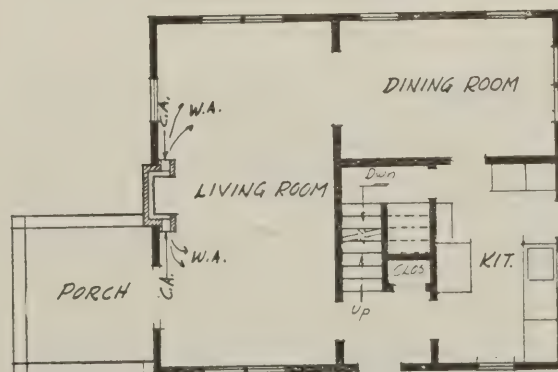
This design is well adapted to cases where it is desired to install a fireplace in a standing home which has none. It permits installation of a flue entirely outside a frame wall and building a fireplace with a minimum of cutting. The flue, it will be noted, is sloped backward, while heating ducts are carried up in the masonry and turned forward.

Equipment to carry out this design includes a No. 34 Heatsaver unit; two No. 57 cold air inlet grilles, 6" x 23"; two No. 53 warm air outlet grilles, 11 3/4" x 9 1/4"; two steel angles—one 3" x 3" x 1/8" x 42" and one 5" x 3 1/2" x 1/8" x 54"; two lengths of 8" round galvanized pipe 2' long; two adjustable elbows 8"; two outlet boxes 8" x 10".

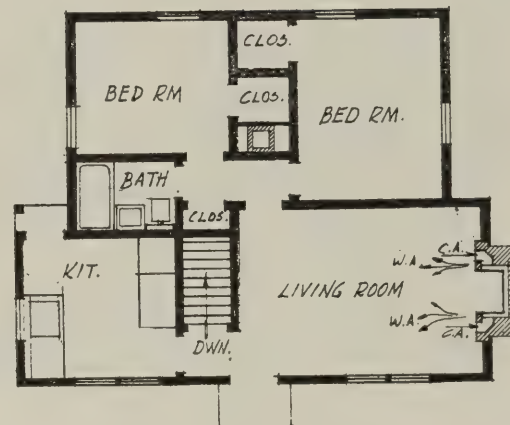
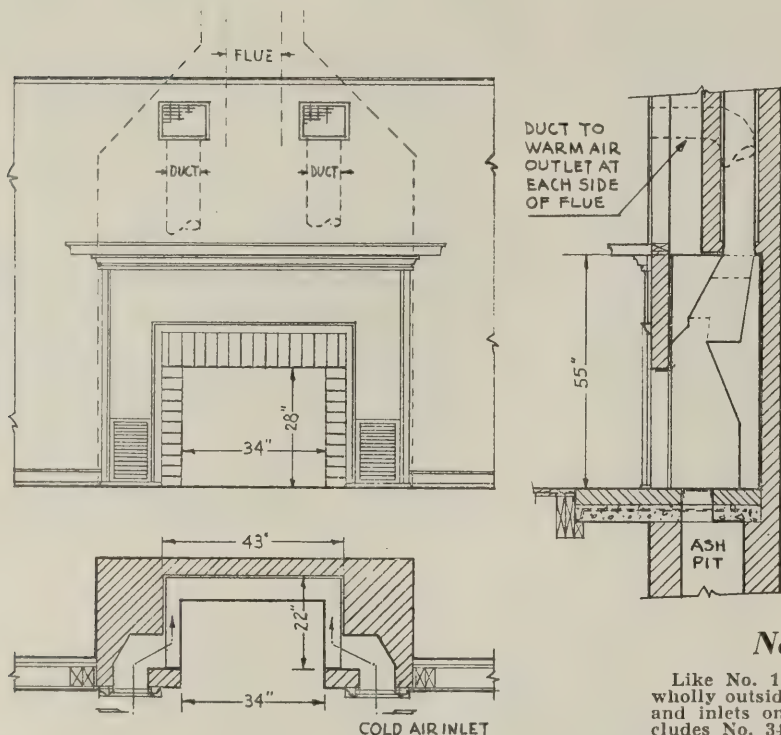


No. 2 Where Room Permits Projection

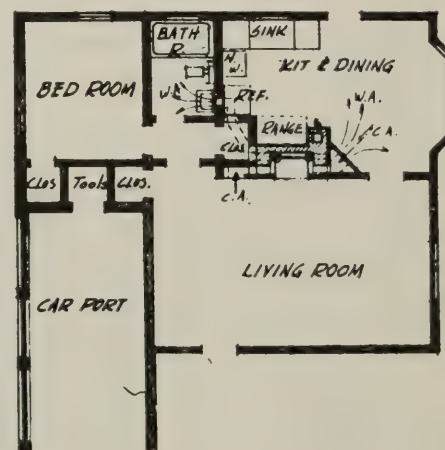
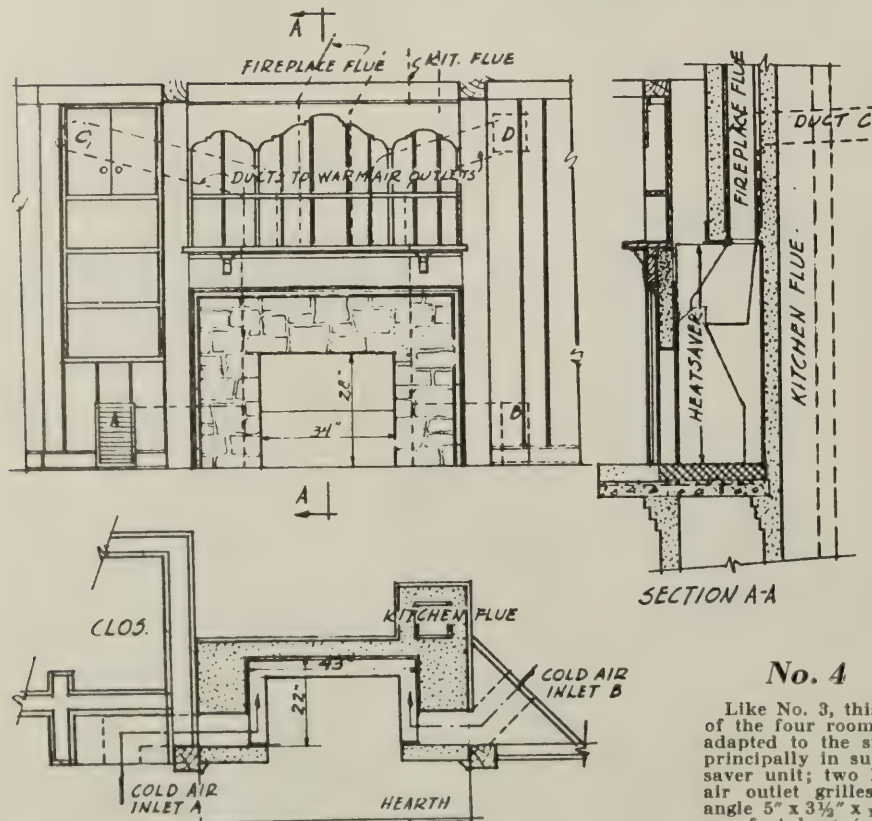
Owners who insist that outlet grilles be inconspicuous may like this design. It calls for a room large enough so that fireplace may project into it without apparent crowding. Necessary equipment—One No. 34 Heatsaver unit; two No. 57 inlet grilles 9" x 15"; two No. 53 outlet grilles 11 3/4" x 9 1/4"; two steel angles—one 3" x 3" x 1/8" x 42" and one 5" x 3 1/2" x 1/8" x 54"; two lengths 8" round galvanized pipe 2' long; six adjustable elbows and two 8" x 10" outlet boxes.



Suggested Heatsaver Designs, Continued

**No. 3 Where Chimney Outside**

Like No. 1, this design is adapted to remodeling, since the flue is wholly outside the frame wall. More nearly flush with wall than No. 1 and inlets on the facing beside the fireplace opening. Equipment includes No. 34 Heatsaver; two No. 57 cold air inlets 9" x 15"; two No. 53 warm air outlet grilles 11 $\frac{3}{4}$ " x 9 $\frac{1}{4}$ "; two steel angles—one 3" x 3" x 1 $\frac{1}{2}$ " x 42" and one 5" x 3 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 54"; two lengths 8" galvanized pipe 2' long; 2 adjustable elbows and 2 outlet boxes 8" x 10".

**No. 4 Heating Adjoining Rooms**

Like No. 3, this installation introduces heat directly into three of the four rooms, making use of an overhead duct. It is well adapted to the small home in mild climates or a cottage used principally in summer. Necessary equipment—One No. 34 Heatsaver unit; two No. 57 cold air inlet grilles; two No. 53 warm air outlet grilles; one steel angle 3" x 3" x 1 $\frac{1}{2}$ " x 42"; one steel angle 5" x 3 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 54"; 4 lengths of 8" round galvanized pipe one foot long (approximate); one length of same 2' long; five adjustable 8" elbows; two outlet boxes 8" x 10".

A Page of Heatsaver Fireplaces



This Heatsaver Fireplace with the Spanish touch, so popular in southern latitudes, belongs to Mr. and Mrs. N. D. Fraser of Sarasota, Fla.



The guest house on the suburban estate of Mr. and Mrs. Galen Rausch at Peninsula, Ohio, is heated by this Heatsaver Fireplace.



The Thomas Barrall home, Paul Ockert, Architect, is located in the Chagrin Valley, east of Cleveland. It is the scene of this splendidly appointed Heatsaver Fireplace.



This Heatsaver Fireplace provides added comfort for the home of Mr. and Mrs. John Powers of Wickliffe, Ohio.



The guest house of W. D. Callaghan in Geauga County, Ohio, is a 100-year-old barn, remodeled under direction of Architect John Sherwood Kelly. This Heatsaver is one of two, installed back to back.



Mr. and Mrs. John Braun greatly enjoy this Heatsaver Fireplace, installed in their suburban home on Rockefeller Boulevard in western Lake Co., Ohio.

SUCCESSFUL FIREPLACES

FIREPLACE DIFFICULTIES

Their Prevention, Diagnosis and Treatment

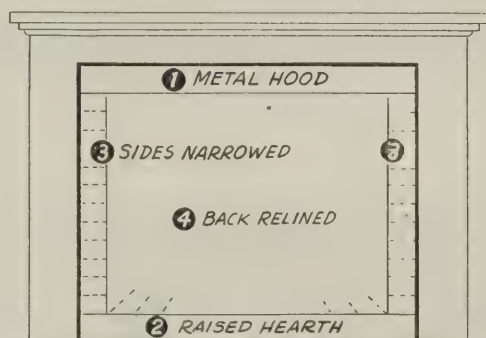
PROPERLY constructed fireplaces burn warmly, cleanly, safely. Those owners who "guess all fireplaces smoke," are making the wrong guess. Yet faulty construction is common enough so that the Donley Brothers Co. is being constantly consulted, by letter or otherwise, as to the causes of troubles with fireplaces. Investigation nearly always reveals some basic fault in planning, or some mistake of execution.

Fire Hazards—Fire resisting material should always be installed between the chimney and wood members. Flue lining, properly cemented, is an excellent source of fire protection and its use is directed by most building codes.

Dummy Fireplaces Dangerous—Besides imparting an atmosphere of fraud, the dummy fireplace is a source of positive danger. Sometime, some day, somebody will try to build a fire in it. The minimum result is a house full of smoke—the maximum is need for a new house.

Causes of Smokiness—The great majority of complaints about fireplace operation are based on smoky operation. Here are some of the conditions and remedies that relate to smokiness.

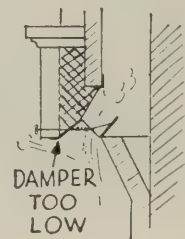
Fireplace too Large for Flue—The flue area should be not less than $\frac{1}{2}$ of the area of the fireplace opening. Where too small to carry off products of combustion, remedy may be found in reducing the size of the opening. Some corrective workers (1) install a shall-



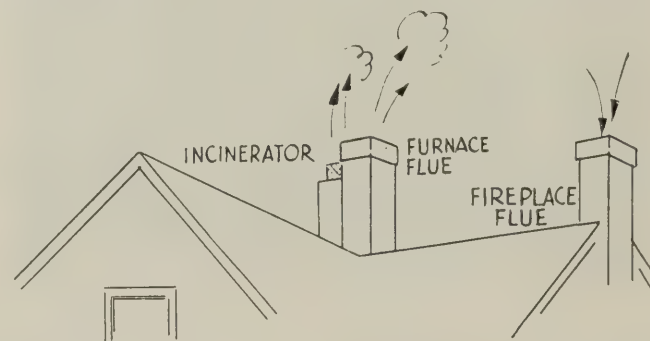
Four ways of reducing fireplace opening

low hood of metal beneath the fireplace breast. This also helps in cases where the damper position is too low. Other ways of reducing the opening are (2) to raise the hearth by laying one or two courses of brick over the old hearth. Where drastic reduction is needed (3) narrow the sides of the opening and/or (4) reline the back.

Damper Too Low—Smokiness often ensues because the damper has been installed with its flange at the lower level of the front wall. The remedy is to take out brickwork, raise the damper to a position four to six inches above the opening and re-align the rear wall to conform with the higher position.

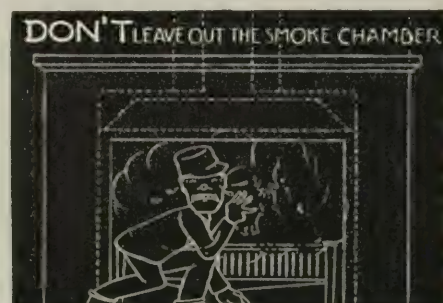


Lack of Combustion Air—Recent innovations in caulking and weather stripping have made homes so tight that there are no air inlets to provide air of oxygen and for draft, such as every fire needs. The



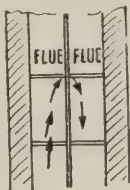
result is that the unlighted fireplace becomes an inlet for outdoor air. If the furnace, the cooking range and incinerator are lighted, there is a steady current of air down the fireplace chimney.

Then if the fireplace is lighted, the draft down the chimney is pretty sure to drive smoke out into the room. We have repeatedly investigated complaints of smoky fireplaces which proved to be due to lack of



ventilation for the interior as a whole. Often opening a basement window an inch or two would cause the fire to burn brightly. The only answer to this type of fireplace trouble is ventilation—not merely for the fireplace, but for the furnace, incinerator, range and for respiration for the family. It is a poor sort of progress that excludes air from interiors where people are supposed to live.

Leakage from Flue to Flue—Sometimes smoke will issue from a fireplace that has no fire in it. Search will show that flues have been placed side by side in the same stack without cementing the joints between units of flue lining. If a furnace fire is burning briskly, there is apt to be downdraft in the fireplace flue, for reasons stated. Smoke will be sucked across through the uncemented flue lining joints and descend—coming out of the fireplace. The remedy is to tear out the chimney and join linings properly. Staggering units of the lining is a help.

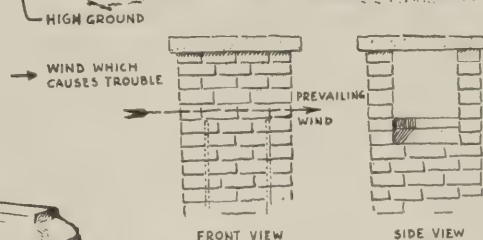


Use of Perforated Brick—Where workmanship is good, there can be no objection to the use of perforated brick in chimney work. Where a job is carelessly done, the fact that brick is perforated may account for the emission of smoke at a point that cannot otherwise be accounted for. The fault, in such cases, is with the workmanship, not the material.

Leakage Impairs Draft—Where flue joints are uncemented and mortar in surrounding brick work disintegrates, there is often a leakage of air into the chimney. This prevents the chimney from exercising the draft possibilities which its height would otherwise assure. The case is similar to that of trying to smoke a cigarette with a hole in the paper. Thorough pointing of the brick work usually effects a cure.

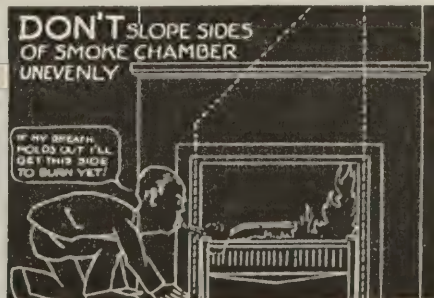
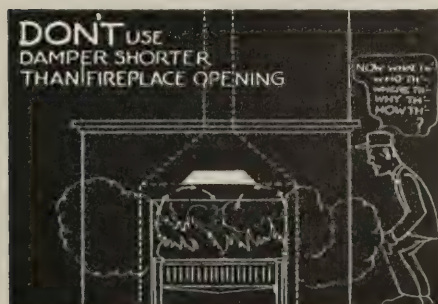


Wind Deflected Down Chimney—The surroundings of a home may have a marked bearing on fireplace performance. If located at the foot of a bluff or hill—or if there are high trees close at hand, the result may

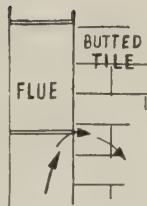


be to deflect wind down the chimney in heavy gusts. A near-by high building has been known to produce the same effect. The detail of a hooded chimney below the sketch of a house, shows a common and efficient way of dealing with this difficulty. It may also be mentioned that carrying the flue lining a few inches above the brick work, with a bevel of cement around it, is a recognized means of promoting clean exit of smoke from the flue. It minimizes wind eddies. The cement bevel also causes moisture to drain from the top and prevents frost troubles between lining and masonry.

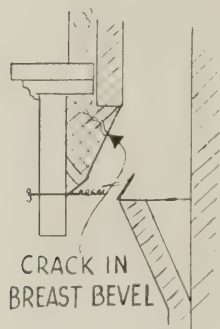
"Pouring" From Flue to Flue—We have spoken of the case where downdraft from interior suction pulls smoke from the top of one flue down an adjoining flue. Related to this, is the case where vertical wind currents force smoke down an inactive flue as it emerges from an adjoining flue. One way to treat this, is to carry the flues to different heights above the masonry. In other cases, multiple flues are capped, as shown. Note the bevel of cement which helps drainage and promotes clean emission of smoke.



Cases of Flue Leakage—Various cases have come to our attention where smoke or odors would pervade a home through faulty chimney construction. One type of difficulty comes from the butting of open tile against a flue. Unless the joint of the flue is tight and remains so, it will emit smoke through the hollow tile that may issue at a point remote from the fireplace and prompt a call for the fire department.

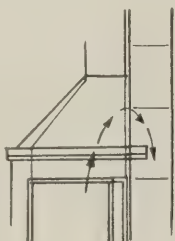


The smell of gas from a fireplace generally means that there is cross leakage from flue to flue, one of them being the one that vents some gas burning device.



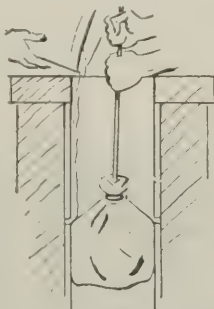
In one instance reported, there was a crack in the bevel of cement back of the chimney breast. Since the front of the chimney was furred and lathed for plastering, the smoke was discharged between the plaster and the chimney masonry. It issued from cracks in the second story woodwork.

Careless masons have been known to bring a flue from a lower floor up through the floor and have the flue lining form one side of the fireplace. Leakage of smoke and faulty draft are likely to result—if not at once, within a few years. Correction involves tearing out the fireplace and building a proper smoke chamber.



Proper Joint Practice—The safeguards against conditions cited are fourfold—(1) Careful cementing of flue joints. Space between flue lining and brickwork being filled with mortar. (2) Staggering of joints in adjoining flues, or at least four inches of well cemented brick between flues. (3) Surrounding brickwork properly laid and joined.

Method of Sealing Joints—A method of closing uncemented flue joints without tearing out the chimney has been used with success in some instances. It involves the use of a traveling plug and fairly thin grout. As a plug, a canvas bag is sometimes employed, stuffed with rags or papers and weighted with bricks in the bottom. When lowered into a flue from the top, by means of a line or pole, it should fit fairly tight, but not too tight for motion. The method of use is to stop it just below the level of each flue joint and pour grout down the flue. When stopped



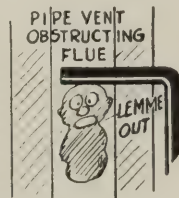
by the plug, the grout flows into the open joint. After the joint appears filled, the plug may be lifted and lowered a few times, producing a swabbing effect. Then it is lowered to the succeeding joint and the operation repeated.

This operation should be carried out with careful eye to conditions in the fireplace below. If too much grout is passing the plug, it may pile up on the smoke shelf, drain into the fireplace and deface it, or, in hardening, may impair the working of the damper.

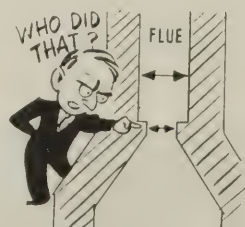
Double Use of Fireplace Flue—Where kitchen stove, furnace or other appliance use the same flue as the fireplace, there is always a liability of smoking and draft disturbances. Each fireplace should have its own flue.

Flue Off Center—The flue should always take off from the center of the smoke chamber and if a slope is necessary, it should occur above that point. Where the flue takes off from one side, it produces uneven draft. Smoke travels sluggishly from the farther side of the fire area and is prone to eddy out into the room. Correction calls for rebuilding the smoke chamber and re-alignment of the flue.

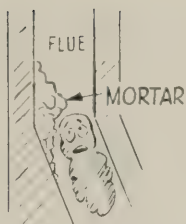
Pipe Projecting Into Flue—Men who install gas appliances are often extremely careless in carrying their vent pipes to almost any convenient flue, breaking in and sticking the metal pipe any distance into the flue that will avoid the nuisance of cutting it off. In many cases a pipe will pass clear through the flue and butt against the opposite wall. The venting of a gas appliance into a fireplace flue is questionable under any circumstances. Where any flue is entered, care must be taken to carry the vent no further than through the flue lining, cementing it in place. If broken pieces of flue lining are allowed to fall down the flue, an added danger of obstruction ensues. Vents from soil pipes, in many cases, have become obstructions in the same way.



Choking at Base of Flue—The upper course of brick in the smoke chamber should offset just enough to afford support for the flue lining, without impinging on the area of the opening. Frequently it is found that they have been set in such a way as to reduce the area of the flue. The only remedy involves removing the obstruction. The same effect might be produced by a cap that chokes the outlet.



Flue Choked by Debris—The commonest form which this difficulty takes is the deposit of mortar, carelessly

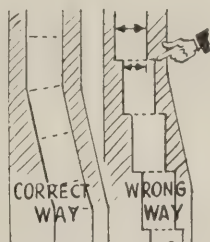


dropped down the chimney during construction. If the flue is straight, it generally lodges on the smoke shelf and may impede the working of the damper. This condition may be corrected, in case of the Donley Damper, by disconnecting the control device, lifting

out the valve plate and removing the debris through the fireplace throat. In case there are turns in the flue, debris may lodge at the angle and such debris is sometimes found to include broken pieces of brick and flue tile. In some instances such obstructions can be dislodged from above by a pole or weighted line and debris removed from the smoke shelf. More often it involves tearing out.

Flue Lining Out of Line—

Sometimes careless masons fail to set flue lining with due alignment, leaving uneven joints, prone to cause leakage of smoke and fumes. In some instances where a slight change of direction in the flue is necessary, it is done—not by sloping the flue in the proper manner—but by successive offsets of vertical lining.



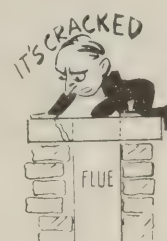
One Fireplace Below Another—Two fairly common mistakes in building a recreation room fireplace below a living room fireplace are—(1) Using one flue for both. (2) Taking off the flue for the lower fireplace at the side of smoke chamber, in order to carry it around the fireplace above. The lower fireplace should be offset sufficiently so that a flue from the lower fireplace by-passes the upper one and reaches the chimney stack by a slope of not more than 7 inches to the foot. See design on Page 17.



Ash-pit Clogged—Difficulty sometimes encountered in removing ashes from ash-pits points to the need of making pits with uniform sectional areas and smooth walls. When pits or chutes are offset in passing a fireplace on a lower floor, all possible care must be taken to avoid roughness or sharp changes

of direction. Wall leakage, particularly in the basement wall, permits water to seep in and convert ashes into a soaked and tightly packed mass. The ash-pit door should be centered at the base of the pit and be large enough to afford access, by poker, in freeing clogged masses near the base. More refractory conditions may call for tearing out masonry and treating obstructions.

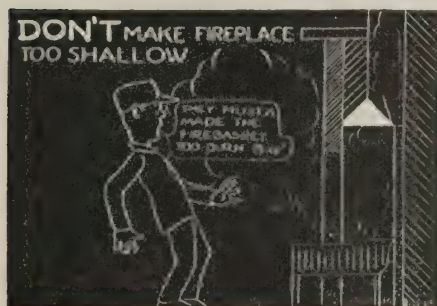
Moisture and Frost Troubles—Because chimneys are subject to contrast of inner and outer temperatures, there is more tendency for mortar to crack and disintegrate than in wall masonry. Natural gas fumes, which form a vapor, may escape through uncemented flue joints and augment the effect of moisture.



Moisture in masonry is always a menace, because it freezes in cold weather and causes disintegration of mortar and spalling of the brickwork. The greatest source of danger is the chimney top. There should be a smooth, impervious bevel of cement at the top, closing the joint between brickwork and lining. If this cracks and admits moisture between lining and brickwork, disintegration is rapid. The chimney becomes a menace because high winds may topple it down. Joint leakage is a lesser evil.

Chimneys should be kept under observation for the need of pointing and their tops examined periodically. Mastic pointing is more effective than cement pointing because mastic adheres better and repels water. Donley Caulking Compound makes an excellent pointing material.

Troubles Generally Avoidable—With comparatively rare exceptions, the troubles that owners suffer from their fireplaces are easily avoidable. It costs little, if anything, more to build a fireplace correctly than to build it badly. Against the varied array of difficulties we have mentioned must be counted the millions of fireplaces that operate to produce uniform warmth, cheer and contentment. Corrective work often involves considerable tearing out, but it is preferable to long endurance of an unsatisfactory fireplace.



A Plea for Peaceful Firesides

by the
Donley Observer

*The way men quarrel over fires
And swear and call each other liars
Is very strange to me.
It seems as though a little sense
Would prompt them to some tolerance
If they cannot agree.*

*I'm calm although my blood will boil
To think of the invested toil
Of busy saw and ax
All squandered in a measly flame
By one who seems to feel no shame
For methods sadly lax.*



*I've told my neighbor all along
His way of building fires is wrong,
But will he change his mind?
A being who is more perverse
Or one who starts a fire worse
I never hope to find!*

*My method when I build a fire
I learned quite early from my sire
And he in turn from his.
Procedure tested by the years
Has earned immunity from sneers
It's right because it is.*

*My neighbor has my full respect.
On subjects where he is correct
He wins my cheerful vote.
The stubborn figure that he makes
In standing up for his mistakes
Is all that gets my goat.*

*And so I must remark again
That in my dealings with such men
I try to be polite;
But do not think it very nice
To spurn my fireside advice,
When I am plainly right.*

HINTS ON TENDING AN OPEN FIRE

SOME people have an instinct for fire tending; some gain fire knowledge by slow experience. The older generation had fire duties from early youth, while the current crop of householders includes many who never acquired practice until a fuel shortage drove them to fire lighting duties.

For their benefit we may say that the 19th Century chore boy learned three stages in producing a fire, represented by the paper, the kindling wood and the actual fuel which might be coal or hard wood.

The match produced the flame; the paper spread it; the kindling held it and produced heat enough to ignite the fuel with a fire that would last.

The Question of Draft



Tight homes have made the draft question so acute of late that it is a good thing to determine whether there is a decided down-draft in the chimney before starting. Wet a finger and hold it under the fireplace throat. If it is cold on the upper side, the draft is coming down.

Opening a basement window an inch or two will often reverse the draft in a fireplace on floors above. A warm stack tends to reverse the draft. Some people crumple a paper, crowd it in the fireplace throat and light it. One should recognize that a flue warms gradually and not try to force a roaring flame in a minute—or the mantel front will be badly smoked.

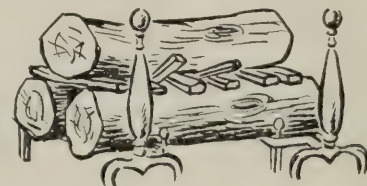
Your wood fire will not burn at its best until it has a bed of ashes beneath it. So one function of the pine kindling is to afford the start of a pile of glowing embers. If you build fires daily, leave some of yesterday's ashes, brushed together, as a foundation for today's bed of coals.

Laying the Fire

Much of the literature of New England must have been produced before log fires, if we draw inference from continual allusions to the fire and to fire lighting. There was (and is) a positive ritual of back-logs and fore-logs, of preferences in wood.

Let us see if we can reduce these dogmas to general principles. We have seen that a fire must (1) be lit, (2) be spread, (3) be held until general ignition takes place. The final stage of fire tending is to conserve it and keep the fuel from burning up too rapidly.

English Fire Laying Method



A method of laying a wood fire that is much used in England is called to our attention by an architectural friend in New York. Newspapers are first crumpled between the log rests. Then two logs are laid parallel over the paper. Kindling is laid across these logs, at intervals of about an inch, with a few sticks stuck downward between the logs into the paper. Then the third log is placed on top, parallel with the bottom logs. This arrangement creates a quick flame with good draft between the logs.

"I think," he writes, "that the English have devel-

oped this system because (aside from their being a very civilized nation) wood is scarce and it is considered essential to have a nice, new laid fire blazing in the hall and guest room immediately a visitor arrives—as essential as their little courtesy of polishing shoes over night.”

Fuel Around the Flame



THE commonest error of neophytes with a fireplace is to try to burn one log of wood at a time. Even two logs are apt to snuff out. Three units in your wood fireplace represent a practical minimum.

Good fire builders recognize that the growing flame needs the protection of fuel around it—that it thrives best when twisting upward between faggots or chunks that continually obstruct it, continually force it to twist and turn.

Function of a Back Log

If your wood supply contains some pieces that are hard to burn, perhaps green—do not be disappointed. They make fine backlogs. The backlog lies against the back of the fireplace. You lean split pine or faggots against it in kindling your fire. It makes a counter-surface for livelier burning wood and helps to hold the body of the blaze forward where it will do the most good.

Wood that is fairly green can be burned after the fire is well under way, especially if there is a good bed of coals. It should be split finer than is necessary, with dry, seasoned wood.

Where Experts Differ

Some good fire builders lay their fires completely before applying a match crumpling the paper and placing it at the bottom; then the kindling wood in loose array; then the solid fuel. If the job is done with care and discrimination, the flame will soon be creeping up through all parts of the mass.

There are others who light paper before they begin laying the sticks of kindling wood. They place each stick where it interrupts a tongue of flame, contriving small crevices to enclose it. Coal or wood fuel is added, a unit at a time. The man who does this loves to play with flame.

“Holding” a Wood Fire

Contrary to general belief, a wood fire can be held over night—sometimes revived after a day or two of inattention. This is important to people who are heating homes with Heatsaver fireplaces and relying chiefly on a wood supply.

Success is wholly a matter of a bed of ashes and embers protecting the partially burned wood from drafts and conserving its heat.

Building a Coal Fire

Coal is a more stable fuel than wood and requires less attention, although harder to hold over night in an open basket. It is kindled in much the same manner as wood. If you have a good “grate” coal, the blaze will be well established in 15 minutes, but it should not be crowded. The flue should be warmed gradually and each piece of coal placed carefully until a lively coal flame has been achieved.

Choice of Fireplace Coal



Cannel coal is in the greatest demand as a fireplace coal. It is the next thing to an oil bearing shale, ignites quickly, sputters a good deal and makes a lot of ash. A fire screen is good caution when burning cannel but a screen diminishes heat and mars enjoyment.

Kentucky bituminous coals have earned a fine reputation, burning quietly and lastingly. There are many grades of bituminous coals that burn acceptably in open fires. Coal of the Pocahontas type tends to coke and mat together, while the loss in slack is considerable.

There is such a thing as a hard coal grate. Coke can be burned in a fireplace if necessary. Neither is preferred in the typical fire basket. Both require to be enclosed on four sides with good draft from below, deep beds of coals being best.

Kind of Wood to Burn

Wood merchants in central-eastern localities report preference for beech, birch, hickory, apple and maple. Many other woods burn acceptably. Oak is excellent fuel; pine and other evergreen rather too free burning for other than kindling.

Apple and hickory give pleasant aroma. Hickory is preyed upon by carpenter bugs and their offspring may infest the premises where it is used. Apple is less abundant than it would be if orchardists replaced trees past bearing. Birch dresses the fireplace handsomely, but burns rather too fast. Beech gives a fine, steady, lasting flame.

The writer lacks data on many woods which must be much employed for fuel in southern and western localities. Perhaps readers will help him out. He does recall his morning wrestles with California redwood as kindling in starting morning fires in a printing office at Palo Alto about 1902—leading to the conclusion that the coal could just as well be lighted from the paper.

Synthetic Wood

Large lumber interests are back of the synthetic logs, now offered in packaged form. They consist of sawdust and chips bonded together under pressure. The reputation of their manufacturers is pretty good assurance that they make acceptable fuel.

Igniting Devices

To many city dwellers, the question of kindling wood is quite as acute as that of getting fire wood. To them the mechanical lighting device makes an appeal.

Such a device is shown on Page 58. Sometimes they are called Cape Cod Lighters. A device with a metal handle and a head of absorbent fire clay rests in a small kettle of kerosene. Removed and lighted, it acts as a wick and ignites the coal or wood used as fuel. The absorbent fire clay becomes heated in the process and if the fuel does not immediately ignite, do not immerse lighter in the oil immediately or oil may explode.

Gas igniters usually consist of sections of pipe, enclosed at the end and perforated to emit jets of gas. It usually has a flexible connection with the supply line and is laid under or on the log rest for lighting.

Such devices do not build beds of embers as does wooden kindling. If ashes are left on the hearth, they tend to clog the gas outlets. Trying to light logs without contact with ashes tends to be a slow process. Gas lighters are the one resource for many, but they often present difficulties.



Corner fireplace in the home of A. H. Chatfield, Jr., Cincinnati. Richard C. Taylor, architect, G. E. Porter, Jr., associate.

Use of Fire Tools

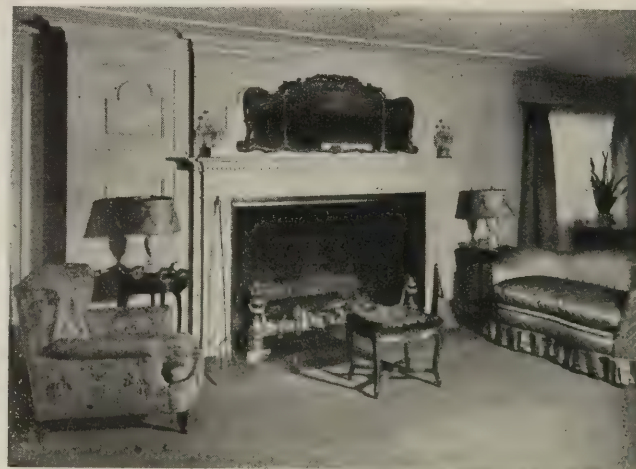
It is a sign of bad fire tending to lift a coal hod and throw a large part of its contents on the flame. Better to place each chunk where needed with the tongs, or to lift out moderate sized shovels full with the fire shovel.

The poker should be used to rouse the flame by opening new draft passages among the embers and by re-arranging the fuel. In the case of wood fires, there is repeated need to bring the unburned ends of logs into the center of the fire and a poker, or tongs make easy work of this task. A brush is useful in cleaning the hearth or keeping the ashes in a neat pile. Some people like to use a bellows as a persuader for a lagging flame.

Operation of Damper

Make sure that the damper is wide open before you light your fire. Many fireplaces are operated with dampers constantly open. Dampers do not have to be constantly opened and closed in order to be of great value in promoting smooth discharge of smoke and arresting downdraft.

When the fire builder has mastered other features of fireplace operation, he can begin experimenting to see how much his damper opening can be cut down, with his fuel, and save heat while discharging all the smoke. When only a bed of glowing coal remains, the damper can be brought nearest to a closed position. But be sure to open it before refueling with smoke producing fuel.



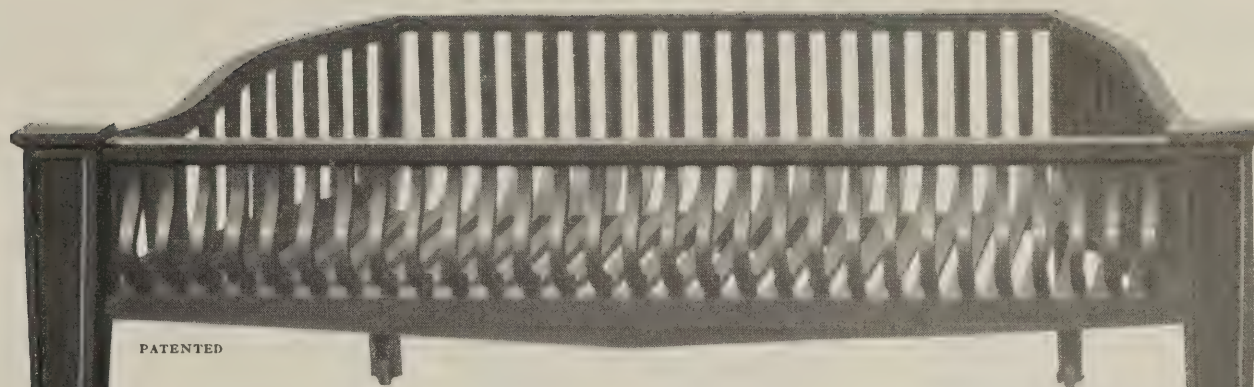
Living room fireplace, Ripplestone estate of Kenneth F. Allen at Gates Mills, Ohio.

The Donley Observer Says . . .

Among mankind, a dirty face
Is justly counted a disgrace.
So, likewise, with a fireplace,
It shows a woeeful lack
Of diligent parental skill
If it has been brought up so ill
That it is smudged and black.

(Occasionally the black face is an accident—Damper closed.)

The being that is right inside
Will never seek its face to hide,
But take a just and joyous pride
In courting close inspection.
So look behind the outer wall
When fireplaces wear a pall
Of sootiest dejection.



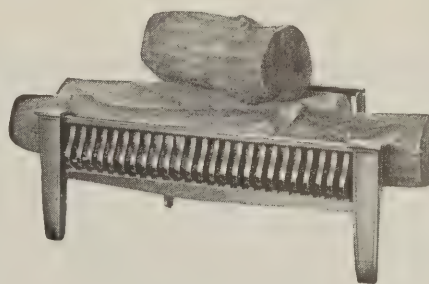
THE DONLEY FIRE BASKET

Splayed Sides for Masonry Fireplaces

This simple and graceful fire basket is shaped to fit a fireplace with sides properly splayed, as indicated in the Donley construction drawings, shown on Page 12. It is cast from the best quality of stove plate cast iron and has a record for enduring severe service for many years.

The illustration at the right shows the manner in which the ends may be removed for burning firewood. They slip out easily when lifted and go back in place securely when coal is the fuel. This is valuable when wood is an occasional fuel. For regular wood burning, the Donley Log Rest or a stout set of andirons is recommended.

The advantages of a fireplace with splayed sides is explained in the chapter on Fireplace Construction, Page 15. Such a fireplace should by all means have a fire basket that conforms to its hearth plan. Widely used, the Donley Fire Basket has earned the approval of thousands of users.



This illustration shows how the ends of the Donley Fire Basket can be removed for burning logs longer than the basket itself. These ends are easy to remove or to set in place.

For MASONRY Fireplaces

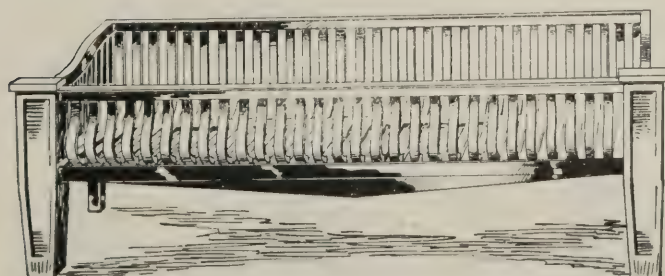
Front Order by this No.	Back	Depth	Shipping Weight	Suitable for Fireplaces With Opening Widths of
24"	12 1/2"	15"	42 lbs.	26" to 28"
28"	16 1/2"	15"	46 "	30" to 34"
30"	18 1/2"	15"	48 "	32" to 36"
34"	22 1/2"	15"	54 "	36" to 43"
40"	28 1/2"	15"	70 "	44" to 60"
57"	45 1/2"	15"	110 "	60" to 72"

Height at back, 12". Height at front, 10 1/2". Clearance for andirons under front, 5".

BASKET FOR DONLEY HEATSAVER FIREPLACE

In our description of the new Heatsaver Fireplace, on Page 35 we explain the reasons that lead to preference for square sides in this type of fireplace, rather than the splayed sides that are recommended where direct radiation is the object. The Fire Basket shown

below is designed specially for the Heatsaver. It is similar to the masonry fire basket, except that sides are square. It also serves for the occasional masonry fireplace that has been built with square sides. Dimensions and weights as shown below.



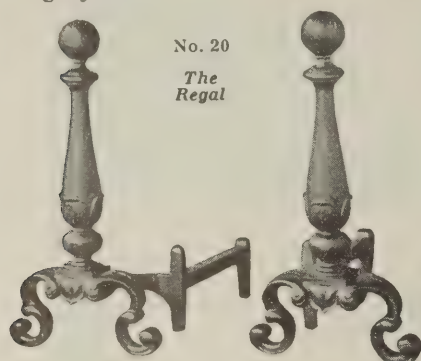
For HEATSAVER Fireplaces

Front Order by this No.	Back	Depth	Shipping Weight	Suitable for Heatsaver No.
25"	25"	15"	49 lbs.	26
29"	29"	15"	53 "	30
33"	33"	15"	60 "	34
41"	41"	15"	77 "	42

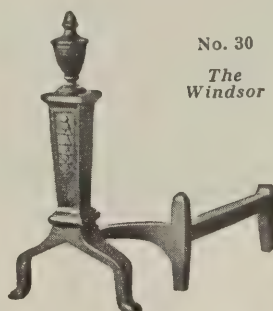
Graceful, Dignified Andirons

Except those models designated as cast brass, all Donley Andirons are cast from high grade gray iron. On cast brass models, the fuel supporting shanks are of gray iron.

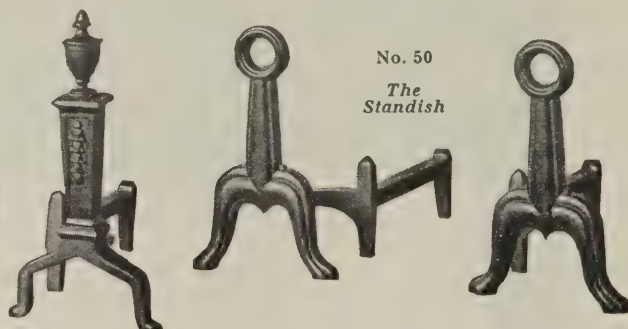
Avoiding eccentricities, Donley Andirons are designed to gratify a variety of tastes and co-ordinate with other elements in the fireplace picture. For description of finishes, see next page. Order by number listed in table.



No. 20
The Regal



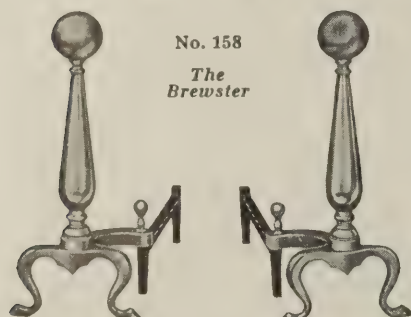
No. 30
The Windsor



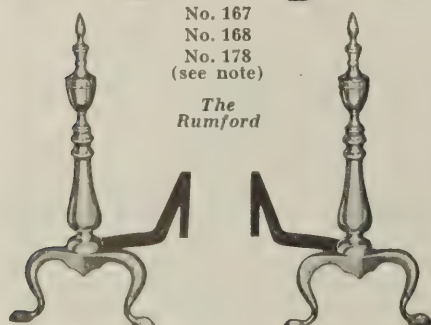
No. 50
The Standish



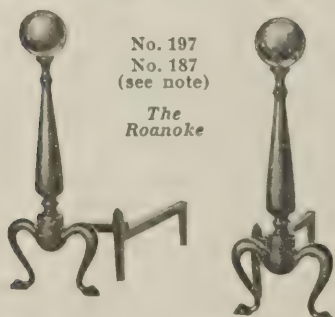
No. 79
No. 69
(see note)
The Essex



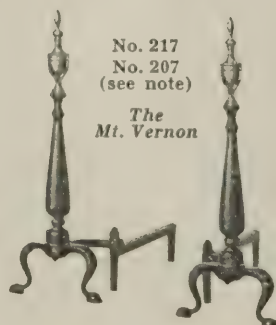
No. 158
The Brewster



No. 167
No. 168
No. 178
(see note)
The Rumford



No. 197
No. 187
(see note)
The Roanoke



No. 217
No. 207
(see note)
The Mt. Vernon



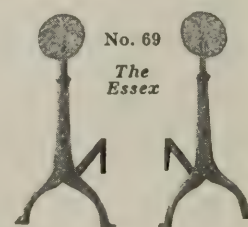
No. 220
The Craftsman

Note: Similar, but different dimensions.

Name	Height, Inches	MATERIALS AND FINISHES				
		See description of finishes on next page				
		Cast Iron, Black	Cast Iron, Brass Plated	Cast Iron, Black, Cast Brass Top	Cast Brass	Swedish Iron, Brass Plated Top
		No.	No.	No.	No.	No.
Regal	22	20	21	..	..	..
Windsor ..	18½	30	31	..	..	..
Standish ..	14½	50	51	..	..	..
Essex	18½	..	..	..	..	69
"	24½	..	..	..	..	79
Brewster ..	19	..	..	..	158	..
Rumford ..	16	..	..	..	167	..
"	18	..	..	..	168	..
"	21	..	..	..	178	..
Roanoke ..	16½	..	..	187	..	..
"	20½	..	..	197	..	..
Mt. Vernon ..	20½	..	..	207	..	..
"	23½	..	..	217	..	..
Craftsman ..	17	220	221	..	..	..

Andiron Shanks

All andirons are regularly furnished with the curved shank as shown in the various illustrations. The straight shank shown on andiron at the right is optional on the Regal, Sentinel, Windsor, Standish and Essex models. Straight shanks are shorter, cost less than the curved shank and are sometimes preferred with log rests or fireplace basket. Length, 13 inches. Curved shanks are supplied unless otherwise specified.



With straight shanks

USEFUL, APPROPRIATE FIRESETS

A good fireset with shovel, poker, tongs and hearth brush makes fire tending easier and more enjoyable. An attractive fireset appropriate to the other fireplace furnishings adds much to the appearance of the room. Donley Firesets are designed to that end—useful, attractive and harmonizing with other Donley Fireplace equipment.

Firesets in the 240, 250 and 270 series are carefully designed for pleasing appearance and lasting decoration. They are also strongly made to give a lifetime of service. The tools are forged from $\frac{1}{8}$ " steel with handles of cast brass or iron. The picture here shows the forged steel claw on the tongs, giving a non-skid grip which, we believe, is superior to any other made for handling of fireplace fuel. The tools are set in a stand having an attractive base of cast iron with flange to prevent scattering of ashes. Graceful retaining horns at top securely hold the tools in place. Sets are available in a variety of pleasing finishes, and the

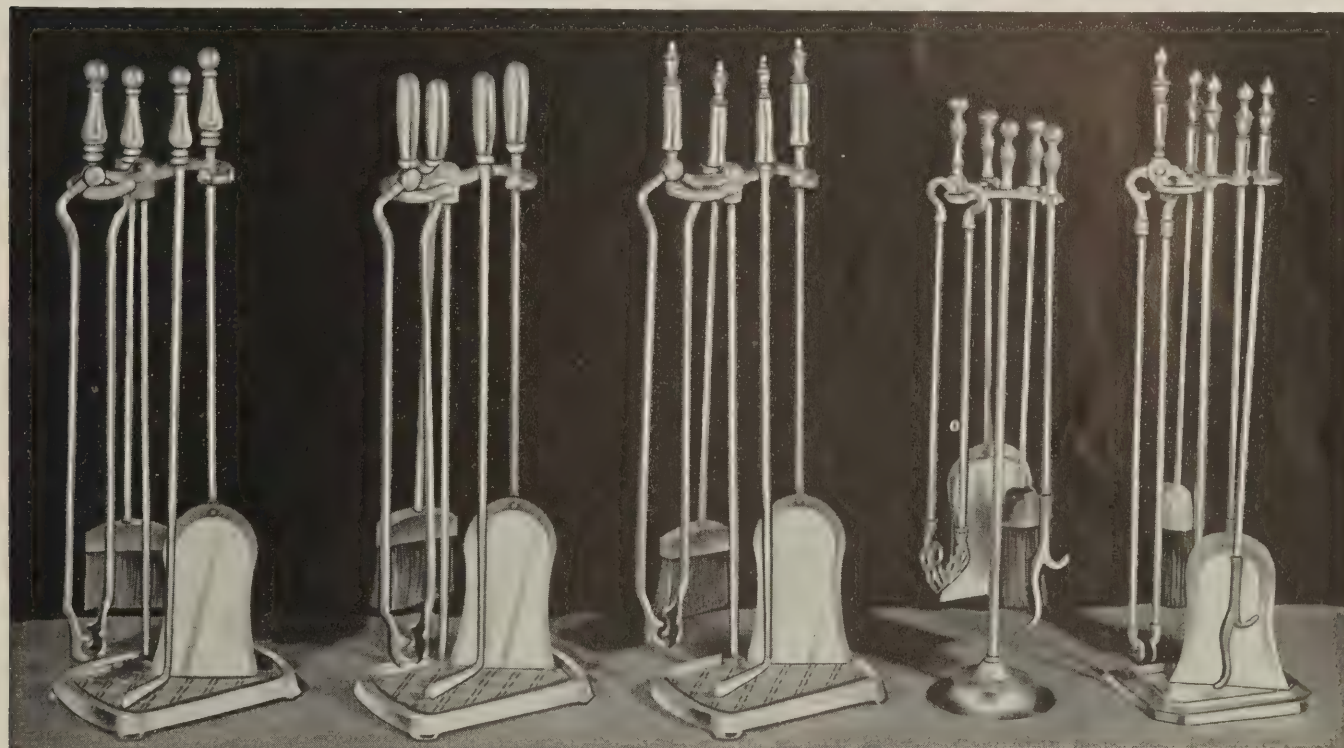


Close-up of forged steel claw on tongs of 240, 250 and 270 series. Grips fuel firmly.

designs are appropriate to the various Donley Andirons. Height 30" overall, shipping weight, 18 pounds per set. See table below for appropriate andirons.

Models 212-B and 218-B are less sturdy, being made primarily of brass. They are more delicate of line and construction. They have the same number of tools, the fifth handle being on the center upright of the set.

Two other sets not illustrated are: Model 210-B with flat base the same as Model 212-B, but having ball top handles, and Model 220-B with canopy base the same as Model 218-B but with urn type handles. Models 210-B and 212-B are 29 inches high, shipping weight 16 pounds; 218-B and 220-B are 27 inches high, shipping weight 10 pounds.



Model 240 series.

Model 270 series.

Model 250 series.

See table below for various finishes available.

No. 218-B with ball handles as illustrated.

No. 220-B same except for urn handles.

No. 212-B with urn handles as illustrated.

No. 210-B same except for ball handles.

Description of Finishes of Andirons, Firesets and Fireplace Furnishings

Art Black—A semi-gloss, black finish that is rust and heat-resisting.

Brass—Cast, spun or extruded yellow brass, polished and lacquered.

Brass Plated—An electro-plated finish of yellow brass on cast iron or steel, polished and lacquered. Has the beauty of brass plus the greater strength of steel.

Swedish Iron—A gray iron finish lacquered for preservation of color and protection against rust.

FIRE SET MATERIALS AND FINISHES			APPROPRIATE ANDIRONS TO USE WITH FIRE SETS LISTED AT LEFT
Handles	Tools	Fire Set No.	
Cast Iron, Black	Steel, Black	240	20, 50, 187, 197 10, 20, 207, 217 Any Andiron with similar finish
		250	
		270	
Solid Brass	Steel, Black	247	21, 51, 158 31, 38, 51, 167, 168, 178, 207, 217 Any Andiron with similar finish
		257	
		277	
Solid Brass	Steel, Brass Plated	248	28, 51, 158, 187, 197 31, 38, 51, 167, 168, 178, 207, 217 Any Andiron with similar finish
		258	
		278	
Cast Iron, Hammered Swedish	Steel, Swedish	279	69, 79

SUCCESSFUL FIREPLACES

FIREPLACE SCREENS STOP FLYING SPARKS

Donley Fire Screens are made in three types—the flat type that fits close to the fireplace front, those with a wide central panel and two wing panels, multiple fold models (4 and 5 folds). Each is substantial, attractive and built to last—brass ornament, as on illustration of type No. 2, is available at slight extra cost.

Flat Type—These one-piece screens set close to the fireplace front. Stock sizes are made to overlap standard size openings approximately one inch at sides and top. They are made with strong steel wire mesh and have openings at the bottom for use with andirons. Sizes: 28" wide by 25" high, 32x29, 32x31, 36x29, 38x31, and 44x31. Shipping weights, 18 to 22 pounds. Other sizes will be made up on special order. In ordering special screens, state size of opening—screens will be made so as to overlap opening one inch at top and at each side.

Screen type No. 1 has a rod frame with supporting feet welded in place. Neat, substantial black handles regularly furnished or, at small cost, handles are finished in solid brass or antique brass to match the furnishings.

Type No. 2 has a special design, strongly riveted frame with smooth edges. Top and sides of frame are finished in black, hammered Swedish (gray steel) or polished brass. Handles and legs are finished in black, polished brass or antique brass.

Folding Types—The folding screens shown here rest outside of the andirons. They fold down to a minimum size when not in use. Screen should be chosen for size as well as for appearance. Folding screens are more convenient when refueling the fire but give less protection.

No. 302, 3 fold, has a rod frame supporting strong wire screening. Adapted for fireplaces 24" to 48" in width. Center panel is 26" wide, side panels 13". Height 30". Furnished in black with brass handles and knobs.

No. 307—Polished brass frame and handles with strong wire screening; fits openings 24" to 48". Center panels 26" wide, side panels 13" wide, height 30".

No. 304—Rod frame, top trimmed in polished brass tubing. Strong steel mesh painted black. Center panel 26" wide, side panels 13". Fits openings 24" to 48". Similar to No. 314 (see illustration) but with straight top instead of arch.

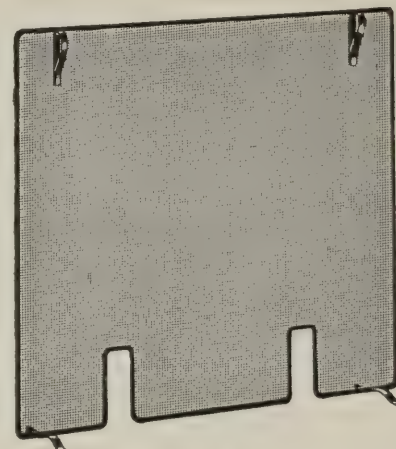
No. 314—Same as No. 304 but with arched top (see illustration).

No. 402—Black, rod frame with brass knobs and handles, each fold 13" wide, height 30". Fits openings 24" to 48".

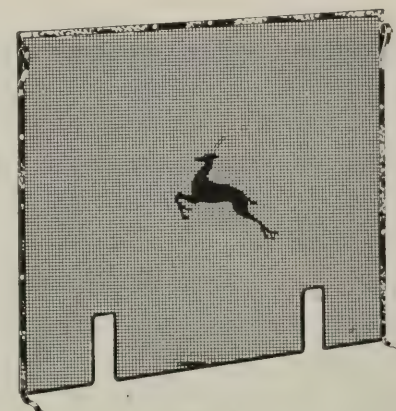
No. 503—Similar to No. 402 but with five folds, 36" high. Fits openings 36" to 60".

No. 416—Square, solid brass, polished, heavy molded frame with curved top and close mesh, strong, black wire cloth; four 13" folds; height 30". Fits openings 24" to 48".

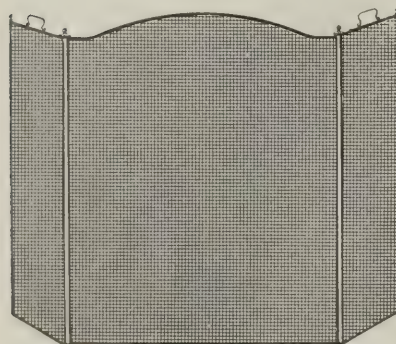
No. 426—Same as No. 416 but with antique brass finish.



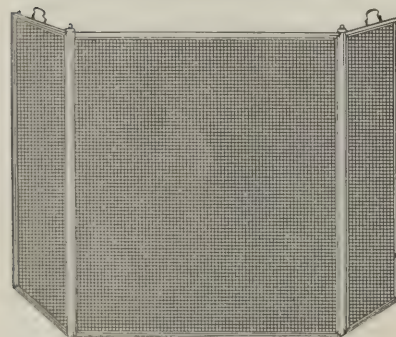
No. 1



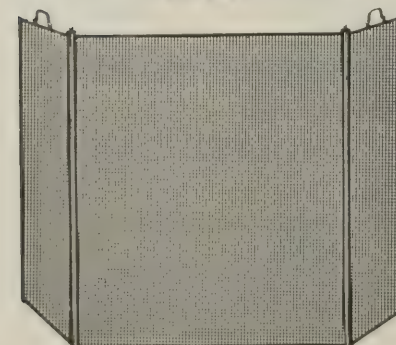
No. 2



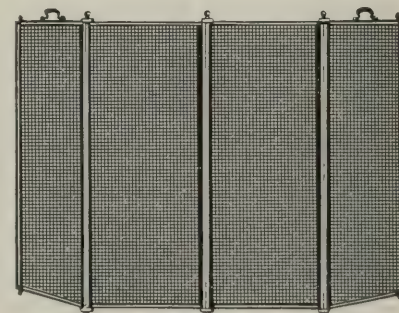
No. 314



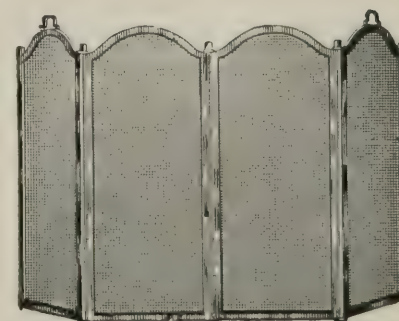
No. 302



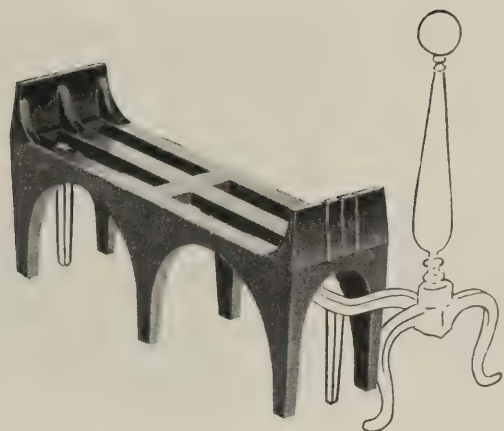
No. 307



No. 402



No. 416

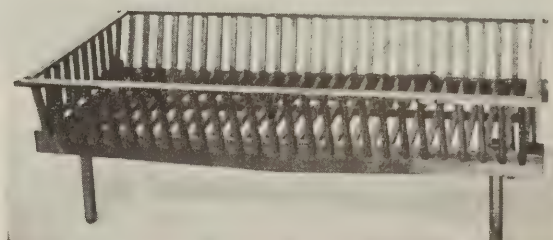


STURDY LOG REST

A pair of these heavy durable Log Rests are a boon to the owner who burns wood exclusively in his fireplace. Designed for heavy duty, they last a lifetime where loads of wood are heavy and heat often is intense. Ordinarily two Log Rests suffice, but where the fireplace is spacious and only short wood available, three or four are sometimes used. When ornamental value of an andiron is desired, the shank of the andiron can be slipped underneath the log rest as shown at the left. When used with outdoor fireplaces, the log rest will support conveniently a grid or grille for cooking. They are made in two lengths, 16 inches and 20 inches, weighing respectively 41 and 48 pounds. The supporting surface is 5½ inches high and 4¾ inches wide.

SQUARE END "BUNGALOW" FIRE BASKET

This fire basket was developed by the Donley Brothers Co. to meet the restrictions of the war time metal shortage. It proved so popular that it is being continued in two sizes— 24 and 28 inches long, each 15 inches deep. It has square ends and is not shaped to fit the characteristic masonry fireplace with splayed sides. It is quite satisfactory in a Heatsaver Fireplace or a masonry fireplace of proper hearth area.



FUEL CONTAINERS FOR COAL AND WOOD



No. 1, 4 and 5



No. 10, 11 and 12



No. 8

A fire needs fuel and the well equipped, attractive fireside is distinguished by a fuel container that serves durably and looks well.

Donley Wood Carrier, No. 1, 4 and 5 has the form of a metal disk curved upward at the sides and reinforced at the edge with legs and handle of pleasing design. Since wood is a clean fuel, there need be no reluctance to select attractive solid brass or polished brass, though black is available as shown in the summary at right.

Donley Wood Carrier No. 10, 11 and 12 has a more nearly rectangular form and can be had in a smooth black finish, or two variants of a brass finish, both hammered, one designated as Swedish Hammered.

Donley Coal Hod—The nature of coal calls for a practical black container. There is nothing to prevent a graceful design and an attractive, brass handle. The Donley Coal Hod has both.

Order by Number	Finish		Shipping Weight
	Body	Handle	
No. 1	Black	Brass	7 lbs.
" 4	Solid Brass	Brass	7 "
" 5	Polished Brass	Brass	7 "
" 10	Black, Smooth	Black	7 "
" 11	Antique Brass Hammered	Antique Brass	7 "
" 12	Swed. Hammered	Antique Brass	7 "
" 8	Black	Brass	7 "

SUCCESSFUL FIREPLACES

Handy Fire Lighter

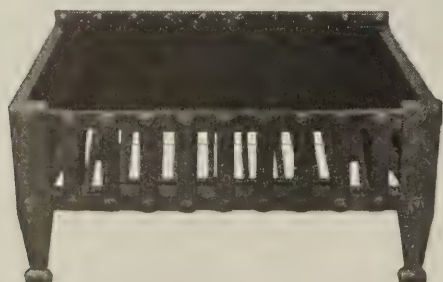


Before matches were to be had, our ancestors carried fire by means of an absorbent stone, provided with a handle and soaked in oil. One variation is commonly known as the Cape Cod Lighter. The oil container takes various forms. The one offered is a saucy looking small black kettle with wide ears, brass top and handle and with a lighter handle to match. Blaze can be kept going for several minutes, which reduces the quantity of kindling needed.

Economy Fire Baskets

This Craftsman type of Donley Fire Basket is specially designed for smaller fireplaces than those using the regular types on page 53. It is equipped with a cast iron dump grate.

Order by Number	Width, Front	Width, Back	Depth	Shipping Weight
120-20	20"	17"	11 1/2"	41 lbs.
120-22	22"	19"	11 1/2"	44 "
120-24	24"	21"	11 1/2"	46 "



Says the Donley Observer . . .

*I watched a mason, old and gray,
Building a fireplace one day
And saw him throw the plans away,
As though they counted naught.
Another, scarce more than a boy,
I watched, who seized the plans with joy
And straightway hastened to employ
The principles they taught.*

Quaint Iron Kettles



Nothing imparts the Early American touch to a fire-side so surely as an iron kettle hung on the crane. If your fireplace is of that type, by all means secure one of these quaint, but thoroughly practical kettles, designed after authentic New England models. Hang it for looks and you are likely to find yourself using it for afternoon tea or for broth, porridge or boiled vegetables.

No.	Dia. at Top	Cap. in Gals.	Weight in Lbs.
10	6"	1 3/4	6
20	7"	1	7
30	9"	2	16
40	10"	3	18
50	11"	4	22

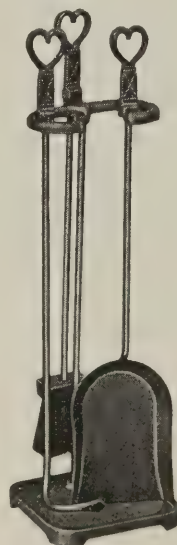
Economy Fire Sets

Besides the regular line of Donley Fire Sets shown on page 55 we offer these two Craftsman models in

black finish only, consisting of poker, shovel and brush but without the tongs, shown in other sets.

No. 311, with heart-shaped handle. Height, 24 inches. Black iron only. Shown at left.

No. 312, with handle of simple colonial design. Height, 24 inches. Black iron only. Shown at right.



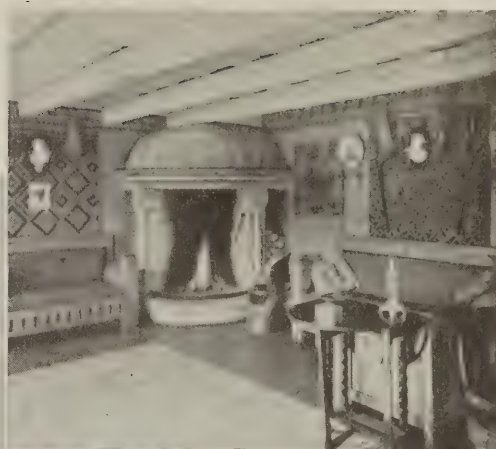
SCANDINAVIAN TYPES OF FIREPLACES

A Glimpse of Something Different

ARE you seeking "something different" in the shape of a fireplace—an idea that may embrace the whole treatment of your interior?

Then we advise attention to Scandinavian types of fireplaces. A good public library will have books from Swedish and Norwegian sources dealing with home decoration and domestic architecture that will offer you a wealth of interesting suggestions.

Why are Scandinavian fireplaces different? Two reasons suggest themselves. Norway and Sweden were practically untouched by the classic Renaissance, which transformed the domestic art of the greater part of Europe. They went on developing their own interpretation of Gothic structure and decoration. At times, this led them to highly ornate treatments, but the trend was toward simplification so that the transition to "modern" has been made in Sweden and Nor-



Old and new in Scandinavian fireplaces. Above is a traditional type of ornate corner 'peis'. At the left a modern version in the apartment of a well known professional woman.

way with less violence to accepted design motifs than has been the case in most other countries.

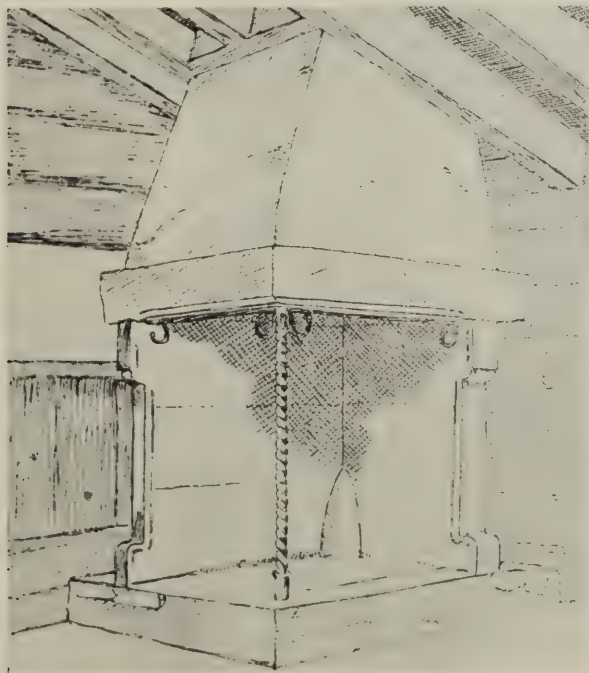
The second distinction is that Rumford principles seem to have been ignored until quite recent times.

Fireplace Characteristics—When you look at pictures of Scandinavian fireplaces, you notice these characteristics—

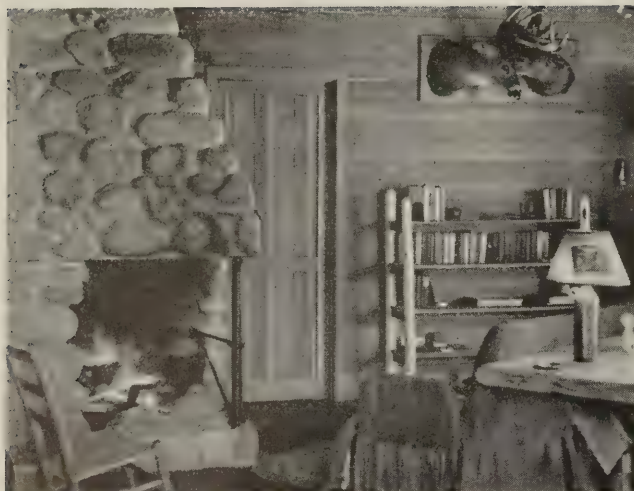
1. Corner location in a large number of cases.
2. A hearth raised six to eighteen inches above floor level.
3. A heavy, masonry hood.
4. Tendency to cut away the sides, so that the profile of the flame is exposed to view.
5. Generous projection into the room.
6. A tendency, even with sidewall location, to have the walls of the fire chamber meet, so as to form a corner at the rear.
7. The practice of burning firewood, upright, against the rear corner of the fireplace.

The Primitive Norwegian "Peis"—Domestic arts in any country rest on the foundation of utility among humble people. The Norwegian farmer, woodsman and villager heated his abode and cooked his food for centuries by means of a corner fireplace, known as a "peis" (pronounced pace). Hans Rask of Lakewood, Ohio, has seen many and helped to build a few. The hearth, he tells us, was first built up of rubble masonry in the corner of the cabin to the height of perhaps a foot. Then rubble sidewalls were erected against the cabin walls to the height of the fireplace opening.

This height, he tells us, was often governed by the length of an old gun barrel which served as a pillar, supporting the heavy wooden lintels where they inter-



Simple form of an early Scandinavian fireplace with characteristic corner location, raised hearth and heavy, overhead canopy of masonry to be heated by ascending flames. Note the hearth is oblong rather than square.



Above is corner fireplace of Scandinavian type built by W. H. Lawrence at Minoqua, Wis., in 1928 from plans furnished by the Donley Brothers Co. and reproduced on the next page.

Fireplace in the home of Gustav Anderson at Amityville, N. Y., introduced by the Swedish Chamber of Commerce, New York. Mr. Anderson is an engineer and nationally known as a pictorial photographer.

sected at the forward corner. With these hewn lintels as a base, a canopy of masonry was sloped upward to the roof line, terminating in a chimney above.

Question of Efficiency—There are many variations on this procedure in the more urbane models. Anyone who looks at pictures of Scandinavian fireplaces must be struck with the freedom of individual preference which they represent.

The off-hand judgment of such fireplaces must be that they wasted a great deal of heat, with fires crowded into a corner and vented into a wide stack directly above. Mr. Rask admits this fault, but points to one compensating virtue.

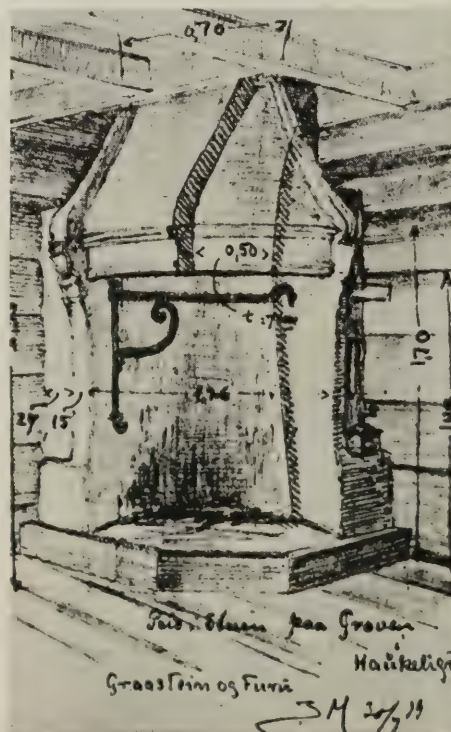
The peis is all inside the building. As its masonry surfaces become heated, particularly the canopy, they give off heat generously, often for hours after the fire has died down. In some pictured instances, the peis is so far inside the dwelling that there is standing room between its back and the outer wall. This is a contrast to Anglo-American practice in which the masonry is often almost as much exposed outside the dwelling as on the inside.

Oppenspis and Kakelung—A Swedish fireplace is sometimes referred to as an eldstad, also frequently as an oppenspis—the latter term to distinguish it from another type of heating device in very general use, known as the kakelung. The latter is more a stove than a fireplace, for the fire is generally enclosed. It deserves mention because it is one of the most efficient room heaters known; also because it is, as a rule, individually constructed to fit the premises.

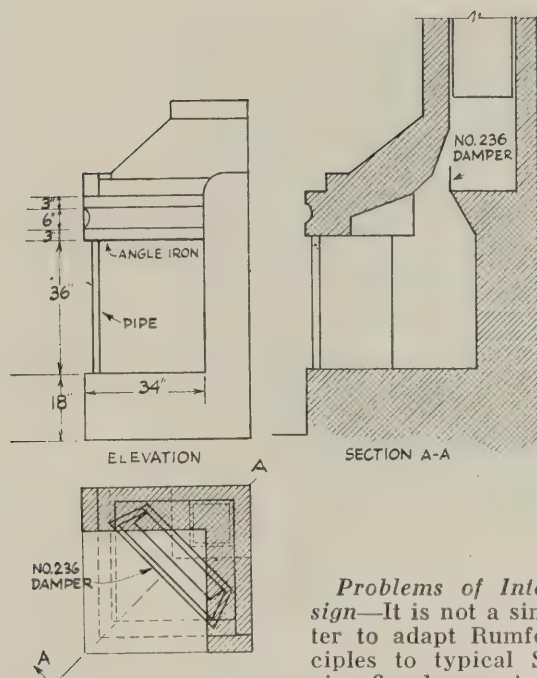
A kakelung is a tile stove, related to the ceramic heating devices of middle Europe, such as the Nuremberg stove. It has twin fire doors of metal some two feet from the floor and an oven door above the height of the fire chamber. In many cases, products of combustion are carried downward and circulated through passages in such a manner as to heat the lower tile



work before escaping upward, but a damper valve permits establishing of direct draft when desired. A vertical structure extending nearly to the ceiling and ornamented with a variety of gay exterior tiles, the kakelung is often beautiful as well as useful. Fire doors may be opened, when the fire has burned down to embers, giving a glow like that of an open fireplace.

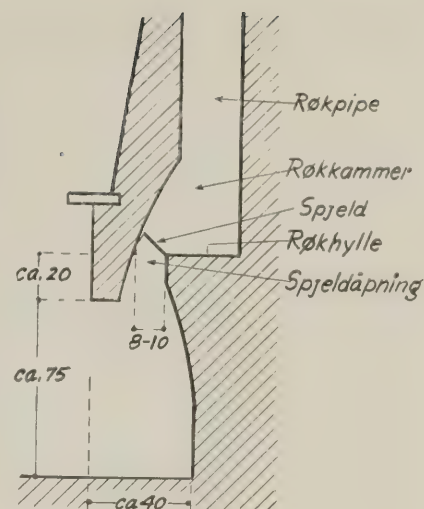


Sketch of historic fireplace at Haukeligen, Norway, with metric dimensions indicated and flue shown in phantom, indicating that custom sanctioned straight discharge of smoke, without smoke chamber.



At the left are plans prepared by the Donley staff for corner fireplace of Scandinavian type built in 1928 by W. H. Lawrence of Minoqua, Wis. It will be noted that damper and smoke shelf are located diagonally across the corner.

At the right are plans published in a Norwegian magazine in connection with an article by Architect F. S. Patou. It is located parallel with one of the two walls forming the corner.



Problems of Interior Design—It is not a simple matter to adapt Rumford principles to typical Scandinavian fireplaces. And yet we must view such adaptation

as indispensable to the best results in any fireplace. The smoke chamber, smoke shelf and throat damper offer the only tested means of checking harmful down-draft. A flue damper is a deficient substitute. An open chimney is intolerably wasteful. Traditional Scandinavian fireplaces, like those in early America, were developed in a country where wood was plentiful.

A design on this page shows our own approach to the problem, made in 1928 at the request of W. H.

Lawrence of Minoqua, Wis. Years after we had forgotten about it, Mr. Lawrence wrote to thank us and enclosed a picture. So we cannot have done badly. Our design, it will be noted, locates the smoke shelf and damper diagonally across a corner fireplace.

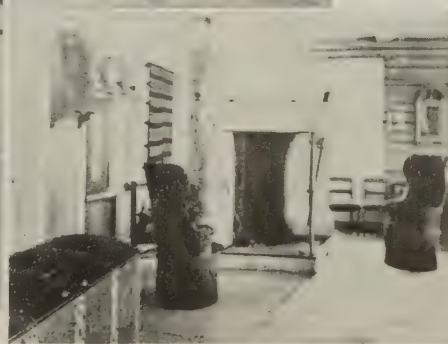
In a design offered by an architect in a Norwegian magazine, the Donley plans are adhered to quite closely in general, but he locates his damper and smoke shelf parallel with a rear wall, even though a partially cut-away side offers uneven draft.

The hood, or canopy, is a problem in itself. Probably the best rule is to treat it as an extension of what, in other fireplaces, would be considered the breast of the fireplace. This means a higher damper position as

Picture below shows influence of the corner fireplace even in sidewall location. The walls of the fireplace meet to form a shallow angle at the back of the fireplace.



Various types of fireplace encountered in Scandinavian homes, as revealed in magazines featuring home decoration and design.



a rule. Good sense and a basic knowledge of how fires act is more important than slavish adherence to a particular design.

Some Conclusions—Don't grasp too impulsively at some fireplace novelty and say, "I want that!" As in other lands, we are pretty sure that some fireplaces in Norway and Sweden are being designed by folks who have only the faintest idea of how a fireplace works.

The general ideas of projection, lifted hearth and hooded top are compatible with good practice and any man with the right experience should be able to introduce proper working factors.

The cut-away side that exposes a flame to cross drafts is a feature to be embraced with caution. It could easily result in vagrant puffs of smoke every time an adjacent door is swung. Consider it in relation to the general situation.

Remember that a distinctly Scandinavian fireplace calls for some concessions to Scandinavian design and decoration in other features of your interior. Skilled architects trained in other lands have sometimes found this far from simple.

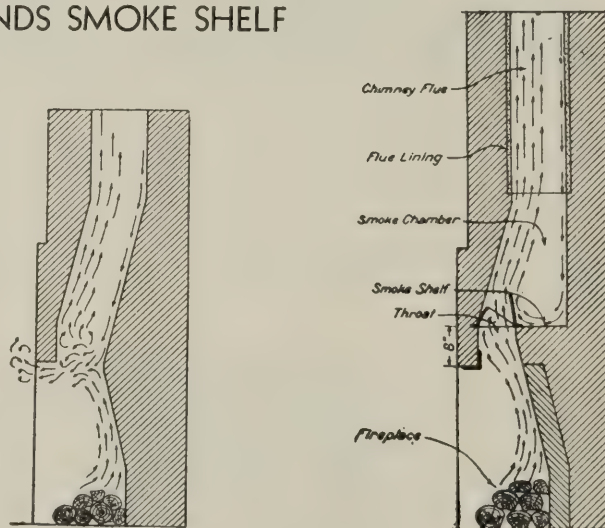


Perspective of fireplace of Scandinavian type, prepared by American designer at the request of the Donley Brothers Co. Might be co-ordinated with designs for Lawrence fireplace shown on preceding page.

GOVERNMENT RECOMMENDS SMOKE SHELF

PERHAPS the commonest error in fireplace construction is the omission of the smoke shelf. Some mechanics argue vigorously for a straight, smooth passage—overlooking the fact that such a passage brings downdraft without offering any particular aid to updraft.

These two diagrams from a publication of the U. S. Government on fireplace practice show the wrong and right ways to plan a fireplace interior. The one at the left illustrates wrong practice—the smoke being blown into the room by downdraft. The diagram at the right shows correct practice (as advocated in the Donley plans) with a smoke shelf on which the downdraft is arrested. The diagram shows also how the valve plate of the damper helps to form a pocket within which the downdraft eddies and turns upward, joining the rising current of smoke.



The Donley Observer Defends Himself



*Attention to a fire demands
That one should sometimes soil his hands
And if a trace of blackness lingers
Thereafter on the palms and fingers,
I cannot think it any more
Than sign of what a hand is for.*

*My art of nurturing a flame
With chips of coal has brought me blame.*

*The household critic points to tongs
And poker, stowed where each belongs,
Then wants to know why I insist
On stubborn delving with my fist.
My worthy forebears, I explain,
Were not of lily-fingered strain.
In mockery she says, "I hope
They understood the use of soap."
And then in startled tones, "Just look
What you are doing to that book!"*

*Still from the bottom of my soul
Upwells the urge to handle coal.
I nurse with zeal that cannot tire
The kindled tongues of mounting fire,
With chunks of coal placed on the wood
Where each will do the greatest good.
With hungry eyes in avid trance
Enchanted by the goblin dance,
I sit until a voice demands
To know how I ENDURE such hands!*



THE OUTDOOR FIREPLACE

ENTHUSIASM for outdoor fireplaces has grown so rapidly that almost every home owner with a garden spot owns one or is maturing plans to own one. Besides those on home premises or rural estates, many are located in public parks, at tourist camping spots, club premises, hunting and fishing preserves and similar semi-public locations.

Of the three types of outdoor fireplaces treated in these pages, the type designed for cooking is unquestionably most popular and occupies first place in order of treatment. Next comes the type of garden fireplace erected chiefly for warmth and cheer.

A section is devoted to a third type, rapidly gaining in popularity, in which an open fire is combined with cooking facilities. This we have named the Universal Fireplace.

Design and Equipment—Typical well-constructed outdoor fireplaces are combinations of masonry and metal equipment. The metal parts supplied by The Donley Brothers Co. are described in detail. Their use is indicated in all the illustrations and designs. Naturally in a field of so much volunteer effort, many poorly designed fireplaces have been constructed and some of the designs published in periodicals have lacked practicality. For this reason, we have taken especial care to present only tested designs.

Study Equipment Summary—Readers will do well to refer to the Summary of Equipment on the last page in connection with all designs and descriptions. It shows in brief form just what metal parts will be needed for every fireplace pictured or discussed.

Fundamentals in Any Outdoor Fireplace Project

Proper Support Important—While the three types of fireplaces referred to are quite distinct, there are certain problems which are the same for each. The first of these is proper support. The fireplace must not sag or heave as the result of water and frost action. It must not settle through imposing too much weight on soft earth.

In southern localities where there is no frost, shallow footing suffices. Where there is frost, either of two methods may be employed. (1) The masonry must go

Cooking fireplace built around Donley No. 20 Unit, with wing walls. Designed by Norcross & Teare for James R. Nurney of Shaker Heights, Ohio.





Cooking fireplace of field stone at the rural home of Miss Hazel Snow near Brecksville, Ohio, a home that she shares with Miss Inez Hoffman, teacher. The fireplace was built with the aid of former school pupils.

down below frost line, or (2) a light structure may be "floated" on a concrete mat whose area is somewhat larger than that of the masonry to be supported.

Outdoor Fireplace Fuel—Choice of fuel will be influenced by local conditions. In woodland sites, forest faggots will be used. Driftwood is a resource at the waterside. In the case of a garden fireplace, where a bright flame is sought, wood must usually be purchased from commercial sources, coal being a rare alternative.

For a cooking fire, charcoal is preferred, and even where campers are blessed with an abundance of faggots or driftwood, nothing else is so adapted to keeping alive a hot, smokeless bed of coals. Most stores

handling camping supplies sell charcoal in convenient packages—also hardware stores, grocery stores, etc.

Moisture Difficulties—Care must be taken to see that the fireplace does not suffer from the elements during the winter season, when it is out of use. This means tightly joined masonry in which frost action can find no crevice to operate. Ground water, too, may be a menace at certain seasons of the year, and low spots, toward which water might drain, are not to be preferred as fireplace locations.

It is a practice quite frequently followed to elevate the hearth a few inches above ground level in case of a garden fireplace; and to use care in the case of a cooking fireplace to avoid having the ash chamber invaded by ground drainage.

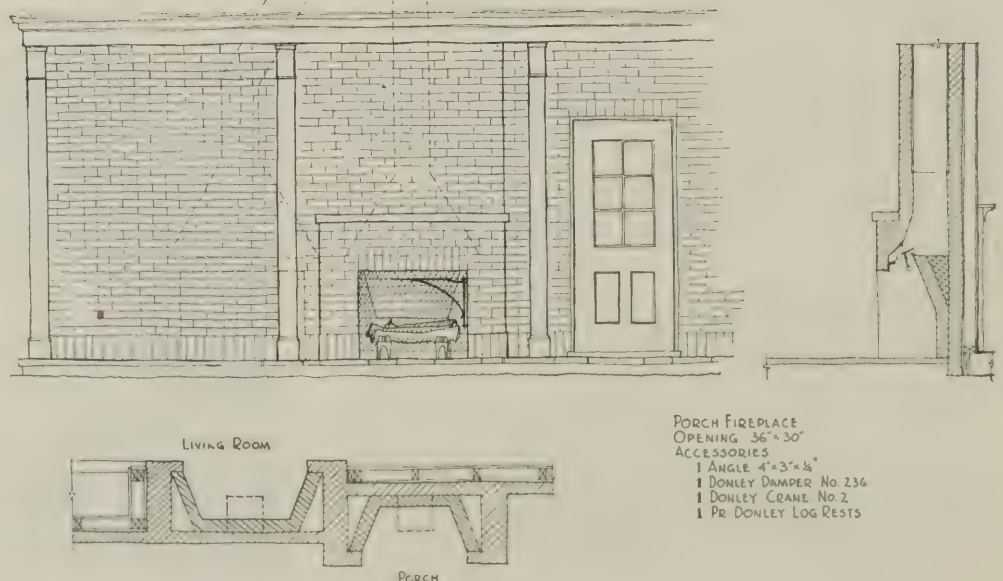
Control of Smoke—The smoke problem in the case of an outdoor fireplace is different, and, on the whole, more perplexing than in an indoor fireplace. Constant air currents tend to blow the smoke into the most inconvenient quarters. Chimney heights are generally less, and draft correspondingly diminished. In the case of a garden fireplace, relief from smoke nuisance is promoted by facing the fireplace in the direction of prevailing winds and by shielding it as much as possible from counter currents. The flue should be ample—the throat relatively open. A damper is of no avail and is, therefore, omitted. Depth of the hearth is usually greater than for indoor fireplaces.

In the case of the cooking fireplace with a chimney, the prime consideration is to have a fire chamber that can be closed tightly when smoke-producing fuel is being burned. If the top is opened during the use of charcoal fuel, it should be arranged to protect the face of the chimney from discoloration.

Outdoor and Indoor Fireplaces, Use One Stack

This arrangement of fireplaces set back-to-back may be utilized for two indoor fireplaces, or for indoor and outdoor fireplaces, employing the same chimney. In the sketch shown an indoor fireplace is indicated with a porch fireplace using the same stack.

Where two fireplaces are located directly back-to-back, it generally involves too much projection by one or both. So we suggest this staggered position. Flues can be brought together into one chimney with slight slope of one or the other. This slope, as we have remarked many times, must take off from the center of the smoke chamber, or above it. An offset flue or an unsymmetrical smoke chamber invite serious smoke troubles.





The Fireplace for Cooking

A LARGE majority of those who build outdoor fireplaces do so for the fun and satisfaction of meals cooked and eaten in the open. Families with such outdoor dining facilities will tell you that food tastes twice as good when cooked and eaten thus. Hospitality that brings guests together at garden benches has become a delightful feature of suburban life.

Donley No. 20 Range Unit—There are Donley facilities for building a variety of cooking fireplaces, but we want to tell you first about the one that is giving the most widespread satisfaction in substantial fireplace structures. This is the Donley No. 20 Outdoor Range Unit. It is winning friends from coast to coast, because—

Installed by itself it makes a splendid family cooking device, or—

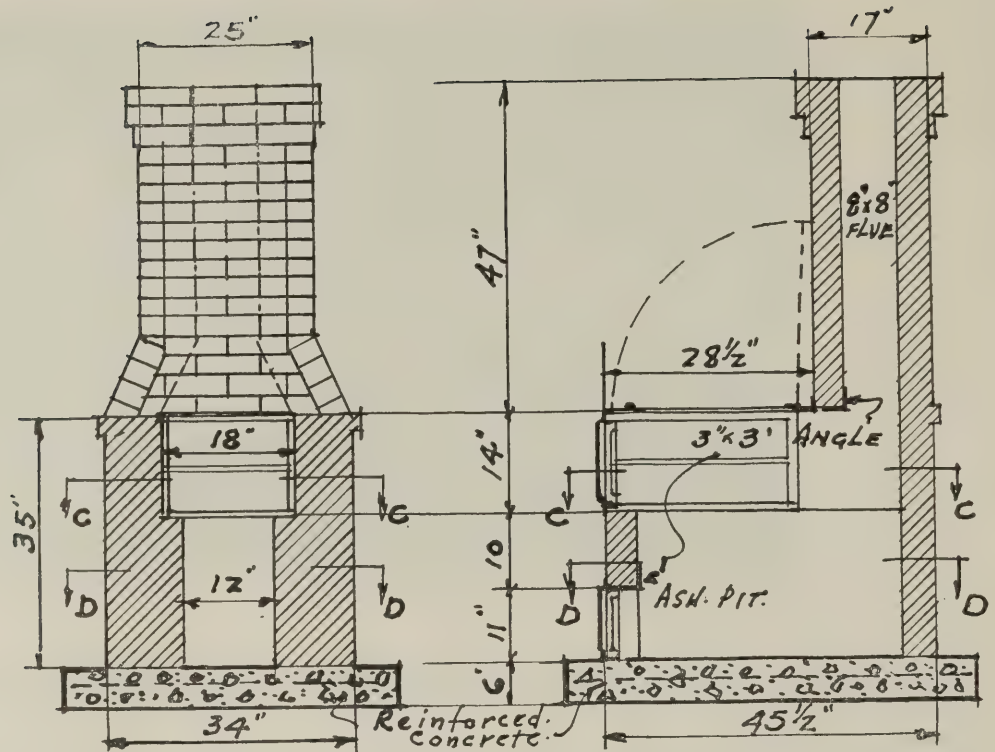
Combined with Steak Grill and Dutch Oven Units it offers a great variety of combinations, capable of serving a score or more of guests.



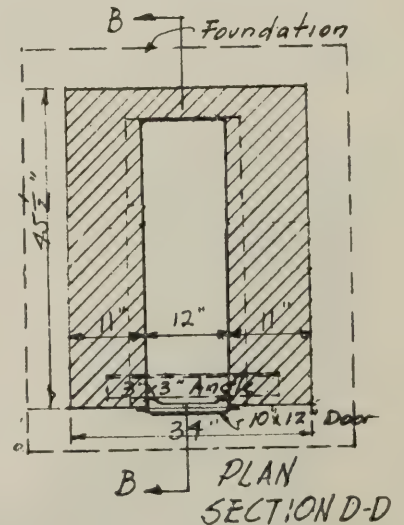
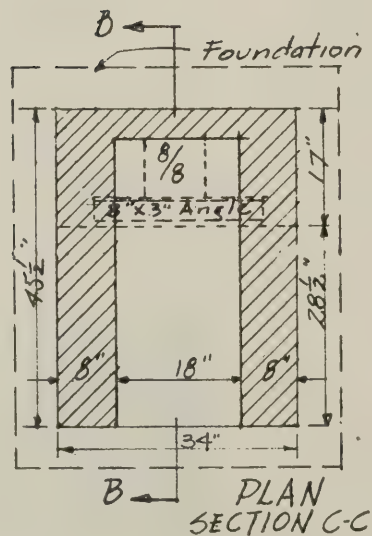
Donley No. 20
Range Unit



Simple installation of Donley No. 20 Range Unit in sandstone on the premises of J. M. Lutton, Mill Creek Rd., Chagrin Falls, Ohio.



Profile, Plans and Elevation of Donley No. 20 Range Unit Installed in Masonry



Above all, it is a unit in which you can enclose the fire and make the smoke go up the chimney. You are not confined to charcoal, but can burn wood or ordinary stove coal and your chimney front will not be marred by soot.

Strong, Welded Construction—The Donley No. 20 Range Unit consists of a strongly welded frame, 28½" by 18" in horizontal section and 14" high. It has guides at three levels to support movable grids. If desired, solid top sections may be substituted for one or both of the upper grids. This gives its top the ap-

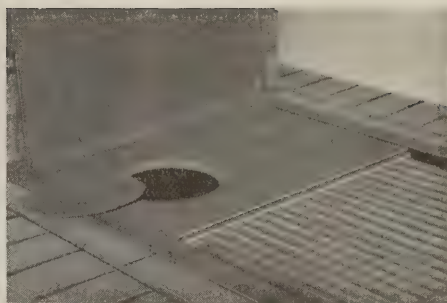
pearance of an old fashioned cooking range, with round, cast iron lids. However, the enclosure of the flame does not depend on the use of the solid top, for—

A *hinged steel cover* completely encloses the unit from above. It prevents the escape of smoke, except through the chimney, when fires are being kindled or raw fuel is used. With a charcoal or hot ember fire, the cover may be swung upward against the chimney, where it protects the masonry from soot and keeps your fireplace looking fresh and attractive.

A steel fire door gives access from the front and facilitates handling and cleaning of the grates. It is provided with a latch.

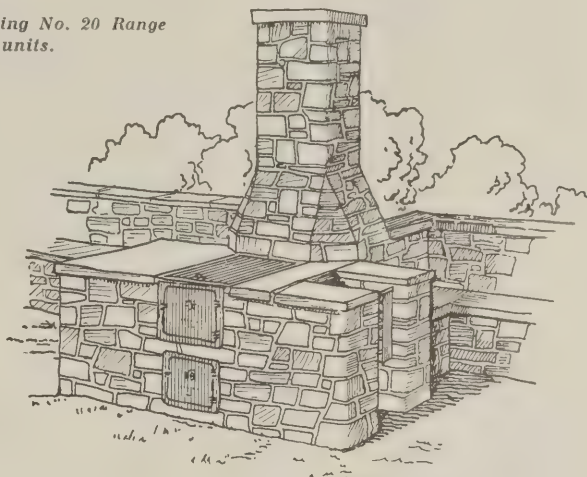
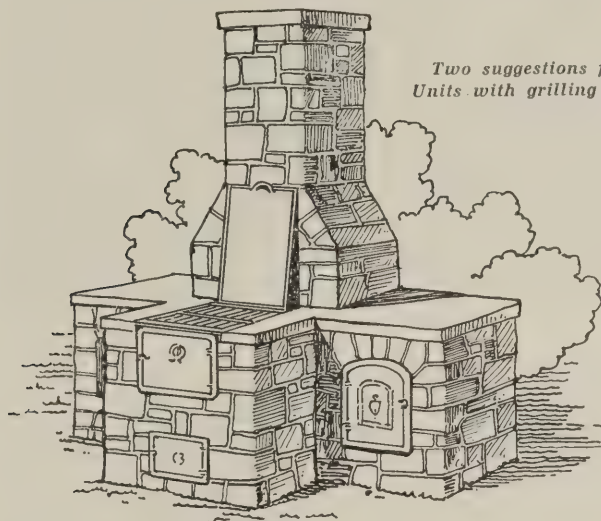
The ash pit below grate level is likewise provided with a door—a regular Donley cast iron clean out door which is anchored in the masonry. This door may be closed or left open a few inches according to draft requirements

Choice of Assemblies—So many alternatives are possible that the reader will do well to consult the summary of Outdoor Fireplace Equipment on Page 58 and read across, so that you will know just what your order includes. The summary shows that it may take any one of six forms, according to your preference of



Above—Solid Top Section

Two suggestions for combining No. 20 Range Units with grilling and oven units.



an A or B unit and what you want in the way of solid top sections.

Solid top section occupies one-half of the top surface, taking the place of one of the two grates that are otherwise used. Two solid sections give a complete cast-iron top with four circular lids.

Drawings shown here indicate installation clearly. The base suggested is a concrete mat, but a foundation below frost line might be preferred by some builders.

The masonry may be brick, stone or concrete. Many charming structures are made of field stone, co-ordinating with near-by rock gardens.

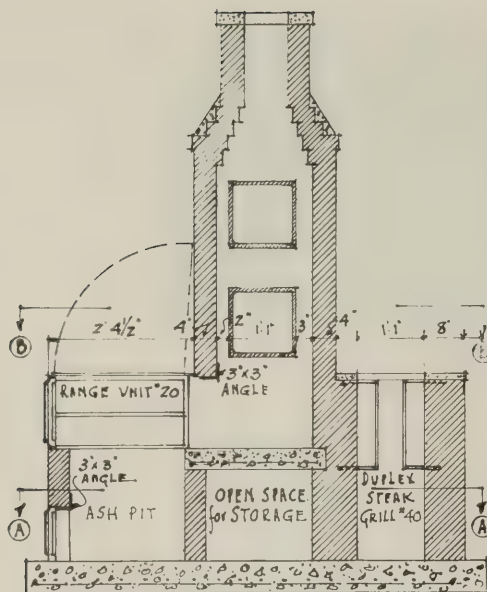
A *Dutch Oven* combines logically and easily with the No. 20 unit as illustrated in the design at left above and other illustrations. Storage space for cooking utensils, for fire tools, kindling, charcoal, etc., is a valued feature of any outdoor fireplace, saving many trips to the house.



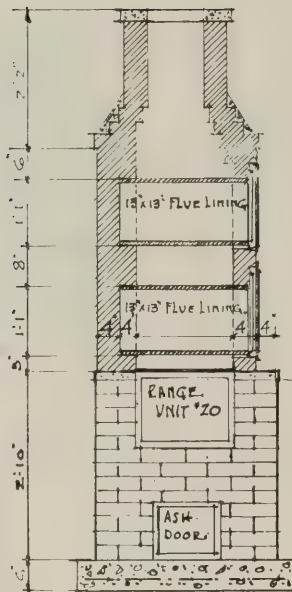
No. 20 Range with Steak Grill. Owner Dr. C. P. Huston, Parma, Ohio.



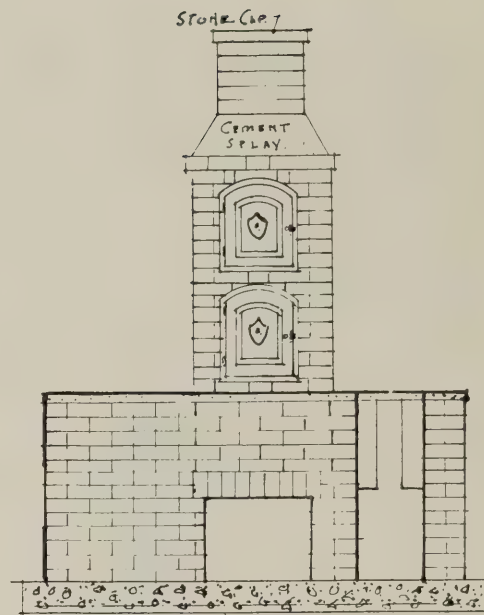
Fireplace using No. 20 Range Unit at the home of Lowell Shockey, Shaker Heights, Ohio.



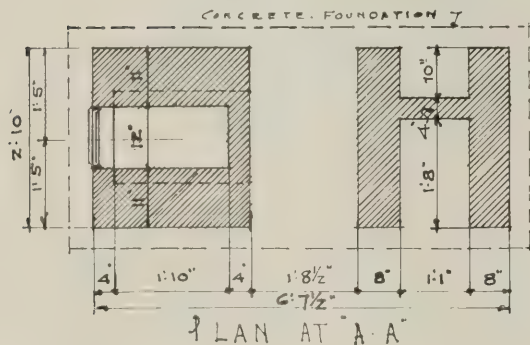
SECTION



FRONT ELEVATION
and SECTION THRU CHIMNEY

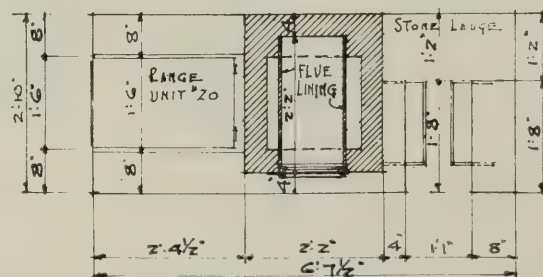


SIDE ELEVATION



PLAN AT "A-A"

This assembly calls for Donley No. 20 and No. 40 Units—also two Dutch Oven Doors.

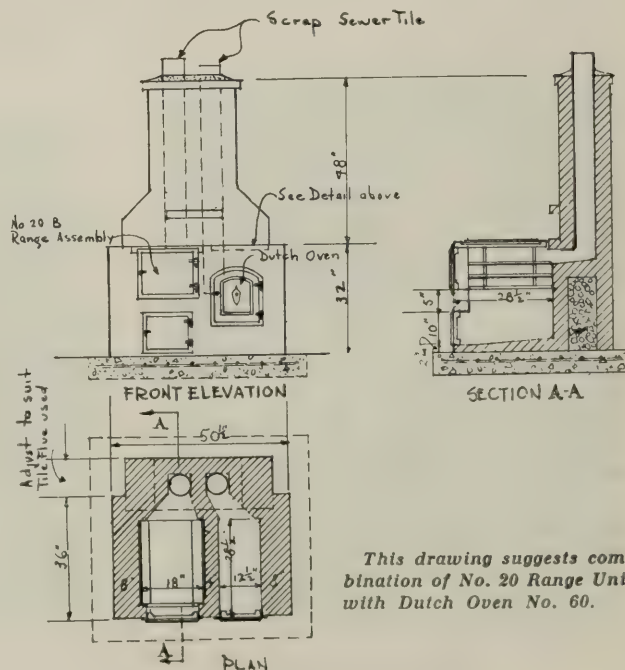


PLAN AT "B-B"

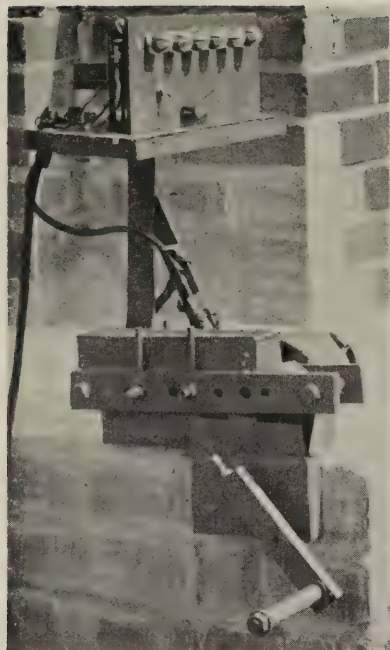
Using Chimney Heat for Baking and Warming

The design above is based on the description of a customer who has used 13"x13" hollow building tile to construct baking and warming ovens for his cooking fireplace. Fuel has been conserved by introducing the ovens into the ascending current of chimney heat. Effective heating of the lower oven to a baking temperature depends on keeping the cooking fire enclosed so that the heat will ascend the chimney. The upper oven is for warming—often an important factor where different features of the outdoor meal must be kept hot and appetizing until all is ready.

The design at the right shows a No. 20 Range Unit and No. 60 Dutch Oven in parallel installation, both accessible from the front and each vented with a separate flue.

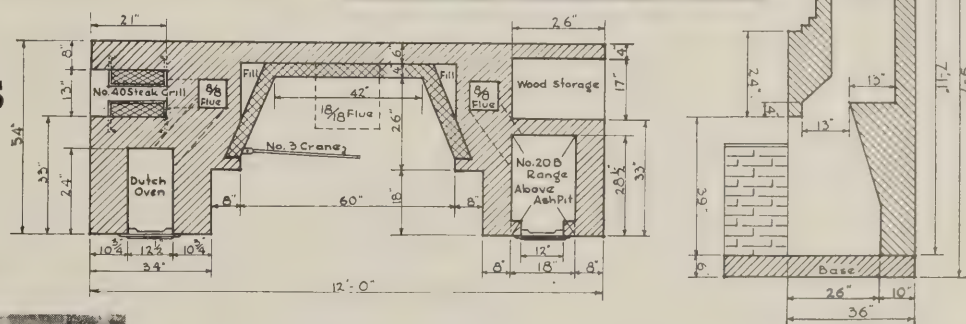


This drawing suggests combination of No. 20 Range Unit with Dutch Oven No. 60.



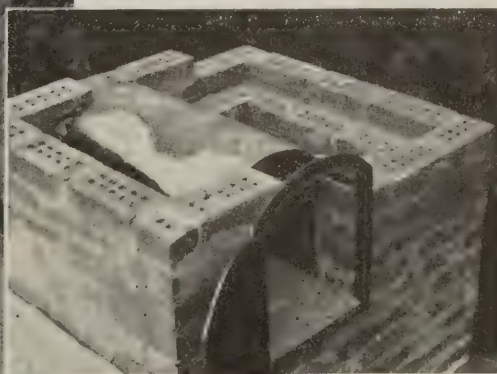
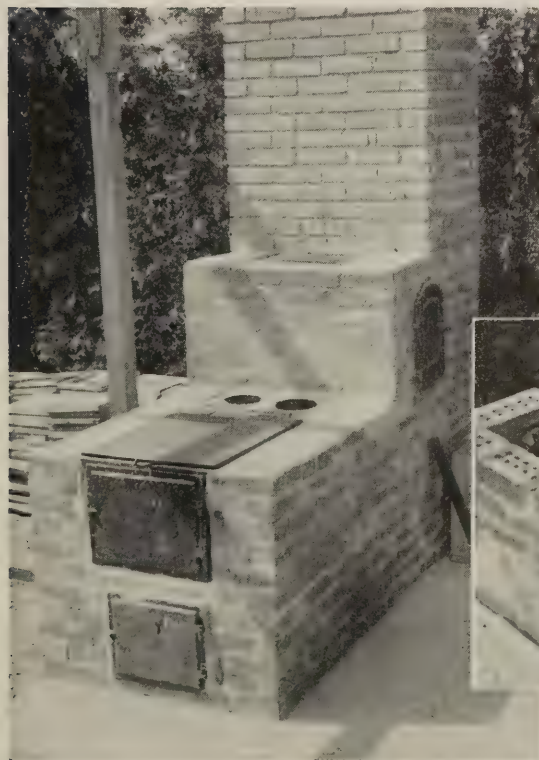
Donley units used here include No. 20 Range, No. 40 Grill, No. 60 Dutch Oven, also Crane.

Two Examples of Barbecue Ingenuity



The drawings and upper views represent a fireplace designed by C. E. Wagnitz on his premises at Northfield, Ohio, much of the work being by his hands. Mr. Wagnitz entertains business groups delightfully by chickens and roasts, spitted on a revolving spit in front of an open fire. Rheostat, gear train and sprocket assembly are shown which reduce speed of motor driven equipment to seven revolutions a minute. Plans reveal also a No. 20 Range Unit, a No. 40 Steak Grill and No. 60 Dutch Oven, beside ample storage spaces.

At the left is a construction view of a novel oven of sheet metal introduced into a No. 20 Range Unit by Owner Carleton E. Lowe of Bainbridge, Ohio, who has a national reputation as a flower grower and often entertains flower enthusiasts from distances. The position of his oven permits products of combustion to pass both over and under it. Two solid top units are employed one at the back of the grill area and the other just above the oven.



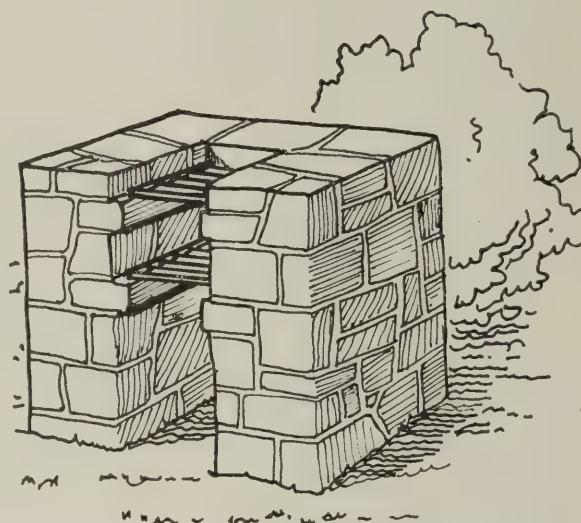
Assembly includes No. 20 Range Unit and Dutch Oven Door.

Three Simple Outdoor Cooking Fireplaces

Donley No. 10 Open Grill

WHEN a camper builds a cooking fire in the open, his first need is a support for cooking utensils; his second, perhaps, for an enclosure which will prevent the fire from blowing in all directions. These simple requirements are met by the design shown here. The fire is walled on three sides with stone, brick or concrete. There are grids on two levels, the lower to support a charcoal flame and the upper for grilling or the support of a kettle or pan. Ash space is ample. The grids used are identified in the table on page 80 as Assembly Nos. 10A, 10B and 10C, varying in size of grate area.

For temporary or casual needs, such a fireplace offers satisfaction. But for steady use on an owner's premises, whether in town or at a summer cottage, other objectives loom upon the owner's desire.



Donley No. 30, Charcoal Stove Unit

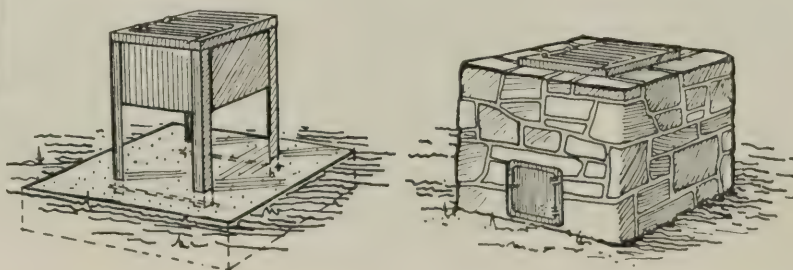
So much culinary joy can be generated by a simple charcoal blaze and cooking grid above it, that we offer this Unit No. 30 to those who appreciate compactness and convenience in their outdoor cooking equipment.

While not readily portable, it can be removed at the end of the season and stored. In fixed locations, such

as public parks, its feet may be embedded in concrete at grade level or it may be enclosed in masonry, in which case an 8"x8" cast iron door is installed in the masonry at grade for the removal of ash. Such an assembly is listed as No. 30-A in the table on Page 80.

For public park use, the No. 30 unit offers the advantage of having all its metal parts firmly fixed in place to avoid losses. It provides an ideal cooking fire for the needs of the picnicker or tourist. The body and legs of the unit are steel. The fire basket is of cast iron grates. Cooking grid at the top is of welded $\frac{7}{8}$ -inch steel rods. A portion of the top is hinged to afford access to the fire.

With no loose parts to be mislaid, with capacity, compactness and convenience, the Donley Charcoal Stove admirably fulfills the outdoor cooking needs of campers, tourists, cottagers and home dwellers. Its height is 24 inches and the outside dimensions of its top are $14\frac{1}{2}$ inches by $20\frac{1}{2}$ inches. Shipping weight, 66 pounds.

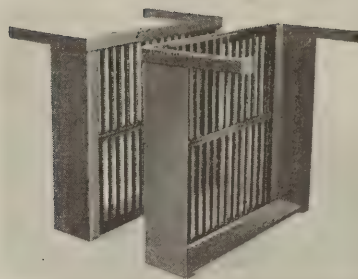


The Donley No. 40 Double Steak Grill

"Between two fires" is an old simile for being in a hot spot. That is the description, too, which fits the Donley No. 40 Steak Grill. It offers a divided fire—two flat, vertical metal baskets filled with glowing charcoal. In the narrow space between, the chef introduces whatever is to be grilled—a juicy steak, fresh caught fish, alluring chops or cutlets. It also makes a rapid toaster of bread or sandwiches, introduced by means of a toasting frame.

Where a spit provides uniform heat by turning both sides of the meat to the flame, the steak grill puts fires on both sides at once and is the most rapid means of outdoor cookery yet devised. Where hungry guests are lined up for their steaming fare, the amateur chef can supply them with less delay by a No. 40 grill than any means of which we are aware.

While the No. 40 grill is more frequently installed as an auxiliary to other units, it makes an excellent, compact, outdoor cooking device all by itself.



These two vertical baskets with cast iron grids are anchored in the masonry by lugs at the top. Shipping weight per pair 52 pounds.

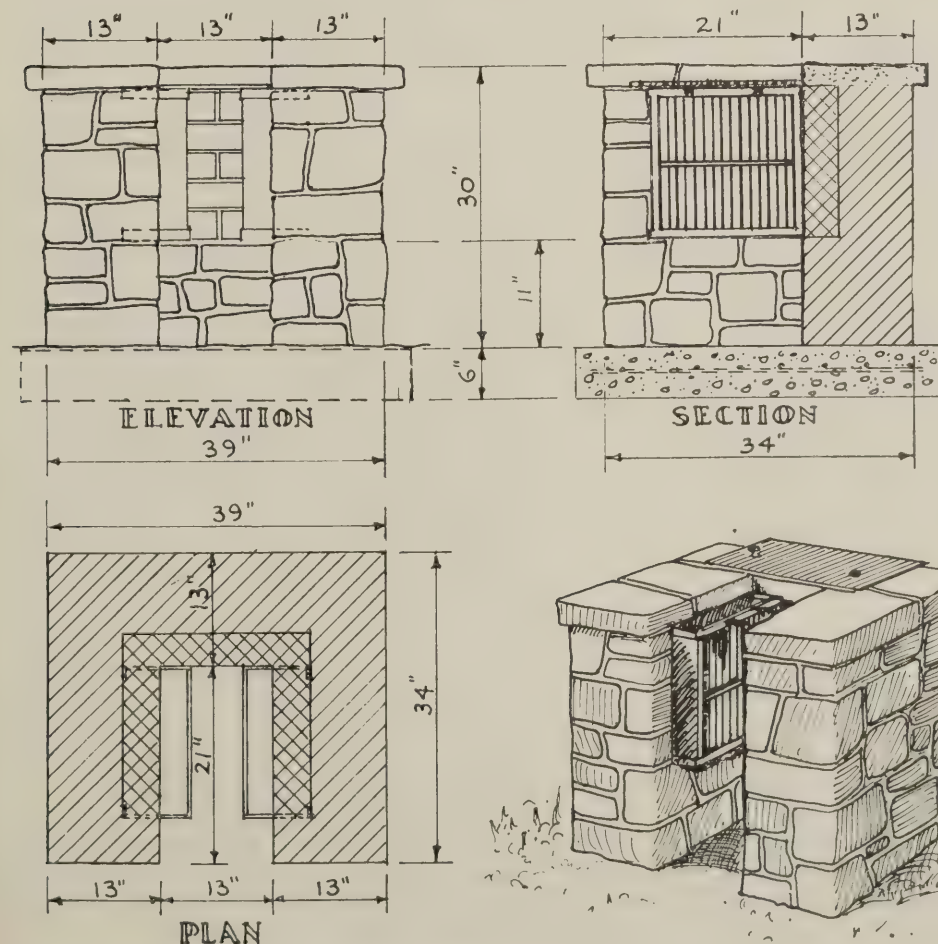
The illustration above shows the principal metal parts, two narrow, basket-like fire containers with lugs at the top that are embedded in the masonry.

Grilling is not all that the No. 40 unit can do. The perspective below shows a sheet metal cooking top, pivoted to the masonry in such a way that it is quickly rotated into place over the flame. Coffee can be boiled and any type of stove top cookery accomplished that can be done in a moderate area. With only slight in-

convenience, grilling can continue while the coffee boils—grilling implements being manipulated from the front of the unit.

Note on Page 79 two examples of the type of broiling fork recommended for this operation. The food to be broiled or roasted is held flat between wires—better than thrusting a tined fork through it.

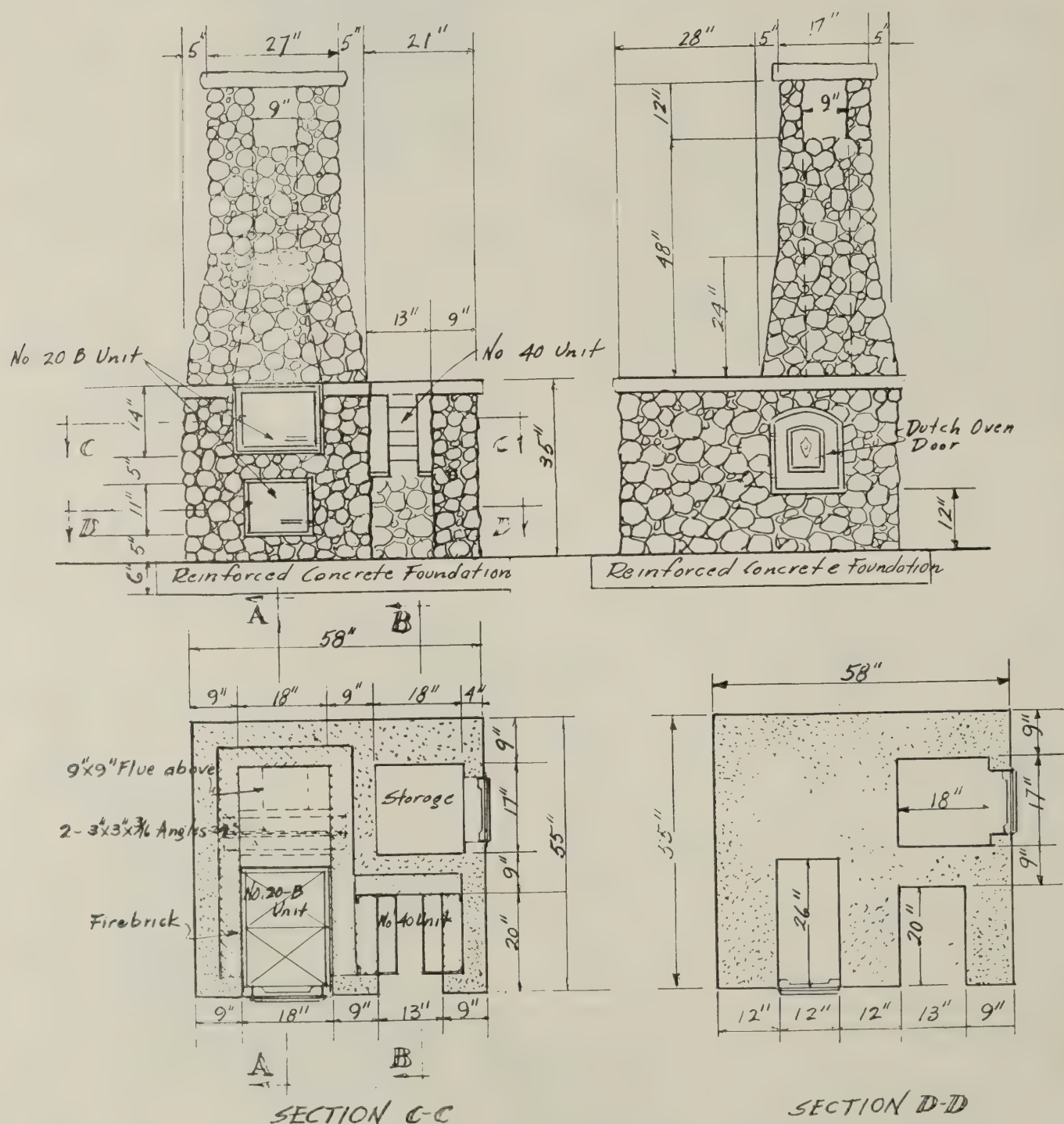
If portability is an object, consider the Donley No. 50 Portable Steak Grill, shown on Page 78. It is used like the No. 40 unit but is free standing and can be carried in a car to picnic or vacation spot.



This installation, as for the No. 40 Steak Grill, is a single unit. More frequently the No. 40 Unit supplements other cooking units in a multiple installation.

Combination of Range No. 20 Unit With Steak Grill No. 40

(also Dutch Oven Door, for Storage)



Here is one of the most attractive and convenient of all outdoor fireplace designs, done in ever appropriate field stone. It has the No. 20 Range unit for every kind of stove top cookery, also the No. 40 Steak Grill for more specialized grilling of steak, fish or chops. This grill has its own movable top so that it

may be used as a supplementary cooking top.

A fine storage cabinet with a Dutch Oven Door at the right offers marked convenience, but one of the finest features is the ample room on the table-like top of concrete or sawed stone.



The Open, Garden Fireplace

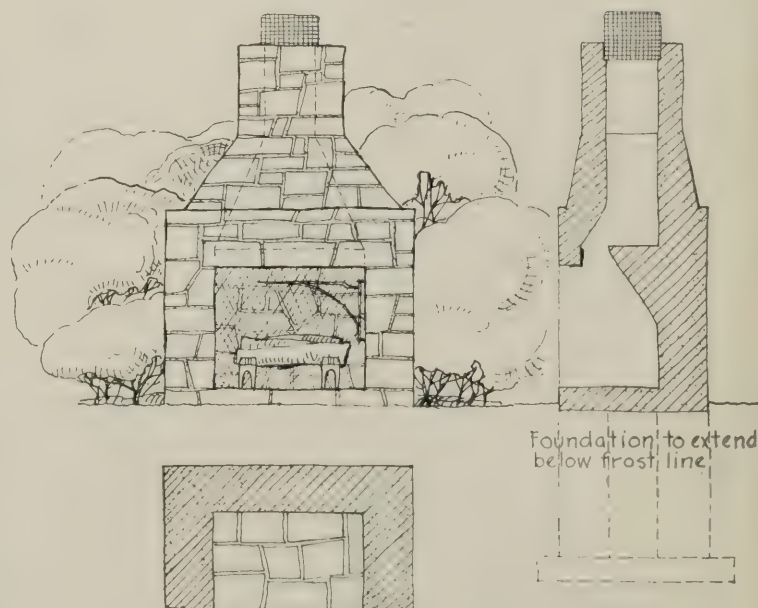
SO far we have been talking about outdoor cookery and the appliances that contribute to open air hospitality. Many such fireplaces are built with high regard to their eye appeal. Some owners, on the other hand, install cooking fireplaces with minimum thought of creating pleasant surroundings and do not seem to enjoy their refreshment any the less.

From here to the end of the chapter we propose to discuss fireplaces that appeal by reason of the beauty and cheer that they impart to garden surroundings. As mere structures, they provide a point of focal interest in the garden layout. They penetrate the evening shadows with an alluring radiance. They dispel the chill and dews of gathering night. They are, in short, fireplaces.

Cooking Facilities Incidental—Building a fireplace for eye appeal by no means excludes cooking facilities. Most garden fireplaces that we know about have a crane, perhaps a spit. At the least, they give opportunities to roast various delicacies by use of a long handled fork over a bed of glowing coals. At the best, they offer such varied cooking facilities as are pictured in the Donley Universal Fireplace on the opposite page.

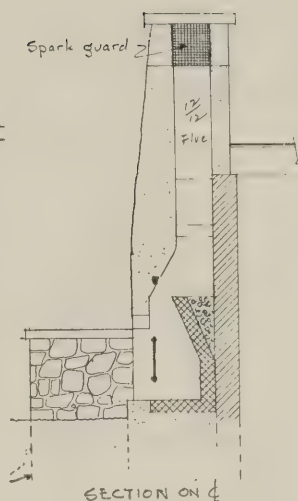
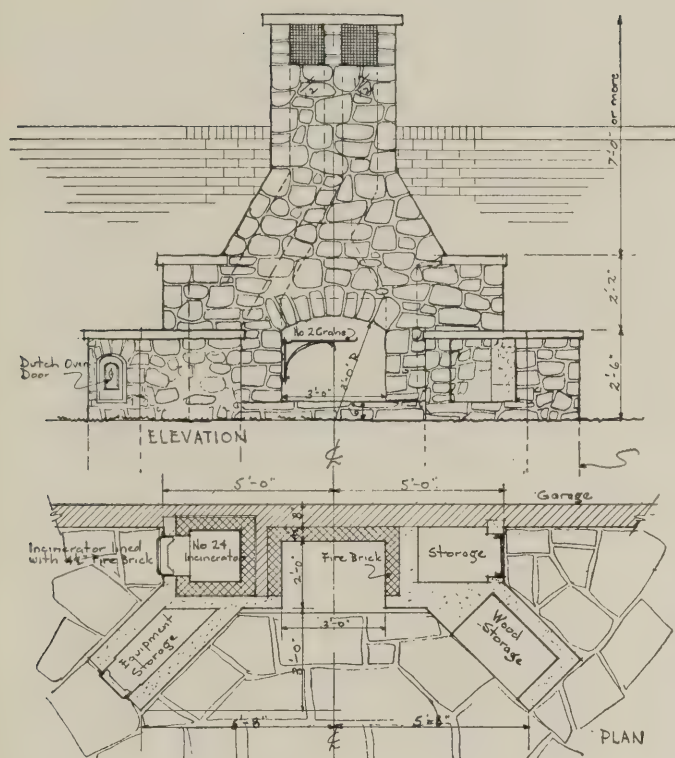
Question of Fuel—There is only limited radiance in the usual charcoal fire, so those who brighten their garden vista with an evening blaze usually rely on firewood cut to appropriate lengths. The owner is particularly fortunate if his location adjoins a beach or woodland where driftwood or fallen branches accumulate and can be had for the labor of carrying and sawing. In such cases, the fireplace may be an aid to

tasks of clearing. In fact, dry household rubbish may be burned, as well as the leaves and fallen branches which call for disposal on any premises with trees. When embers burn low, and roasting forks are plied, the embers may be fed with addition of charcoal.



OUTDOOR FIREPLACE
OPENING 36" x 30"
ACCESSORIES
1 ANGLE 4" x 3" x 1/4"
1 DONLEY CRANE NO. 2
1 DONLEY SPARK SCREEN 12" x 12"
1 PR DONLEY LOG RESTS

Scale in feet



Fireplace built against garage on premises of Charles T. Weiler, Huntington, W. Va., with incinerator vented into separate flue in same stack.

No. 60 Dutch Oven Door for storage space.

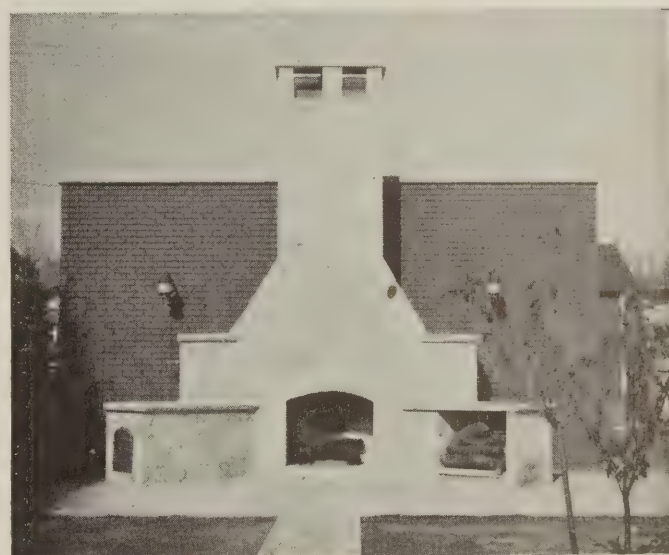
Donley Crane.

No. 24 Donley Incinerator.

1—15½"x15½" grate.

1—14"x11" fire door.

1—14"x11" ash door.



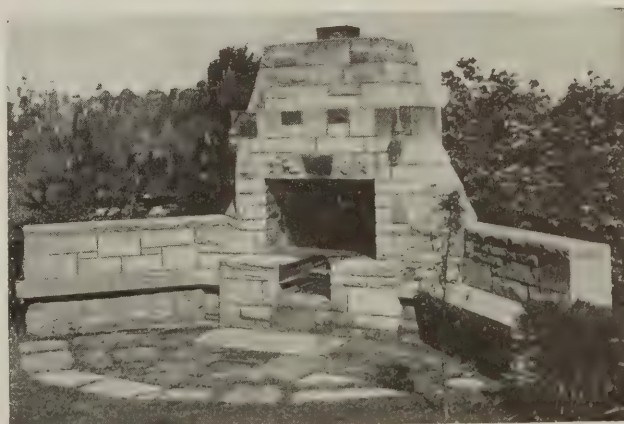
Question of Surroundings—Landscape architects who plan gardens for their clients like to include an attractive fireplace in their plans. It may, in some instances, be combined with a garden wall or built against a garage or other structure, as shown here. Generally it represents a focal point in the garden plan, perhaps facing a strip of green lawn and balanced by a sundial, bird bath or other ornament at the opposite end of the vista. The hearthside should connote restfulness, with seating either by means of masonry benches or movable seats. A table should be included. Shade is an advantage. There will be utility in some sort of lighting fixtures, when utensils, fuel and food are being assembled, even though they are turned out when the fire is at its brightest.

The Universal Fireplace No. 70

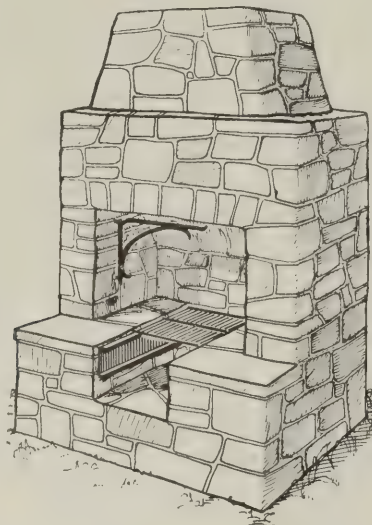
SOMEONE asks, "Why cannot I have a pleasant, open fire to take the chill from summer evenings, and still do outdoor cooking when I want to?" The answer, "No reason at all." Thousands of just such fireplaces have been built, and designs shown here indicate some of the methods employed.

The result can be achieved, in one way, by adding combinations of broiling, cooking and oven units to the typical open fireplace. But there are other ways that make the open fireplace itself a source of culinary delight, just as it was through thousands of generations of human history.

SUCCESSFUL FIREPLACES



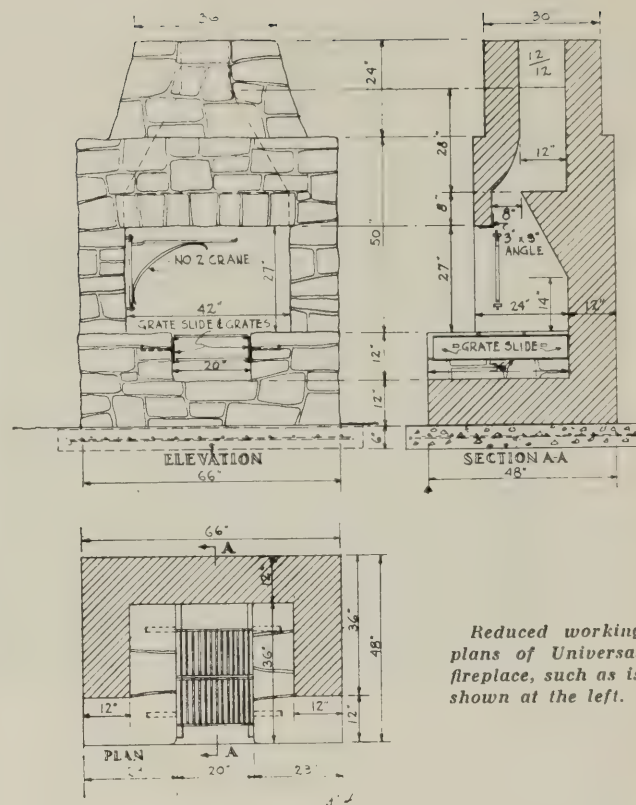
Perspective and working drawings of Universal Fireplace No. 70



Universal Assembly, No. 70—The best way that we know of to make cooking use of an open fireplace is accomplished in the No. 70 model illustrated here. It has a hearth elevated 24 inches above grade and extended forward. The central hearth is 12 inches and equipped with channel slides on which to support grates at fire and cooking levels.

When the fire is used only for warmth, the grates are placed at upper hearth level and backward against the rear wall. In that position, they support fuel and the space below serves as an ash-pit.

For cooking, the grates are pulled forward and used to support cooking utensils, while a fire of charcoal or hot embers is placed on grates six inches below. Materials needed for such an assembly are listed in the table on Page 80 as No. 70 Universal Fireplace.



Reduced working plans of Universal fireplace, such as is shown at the left.

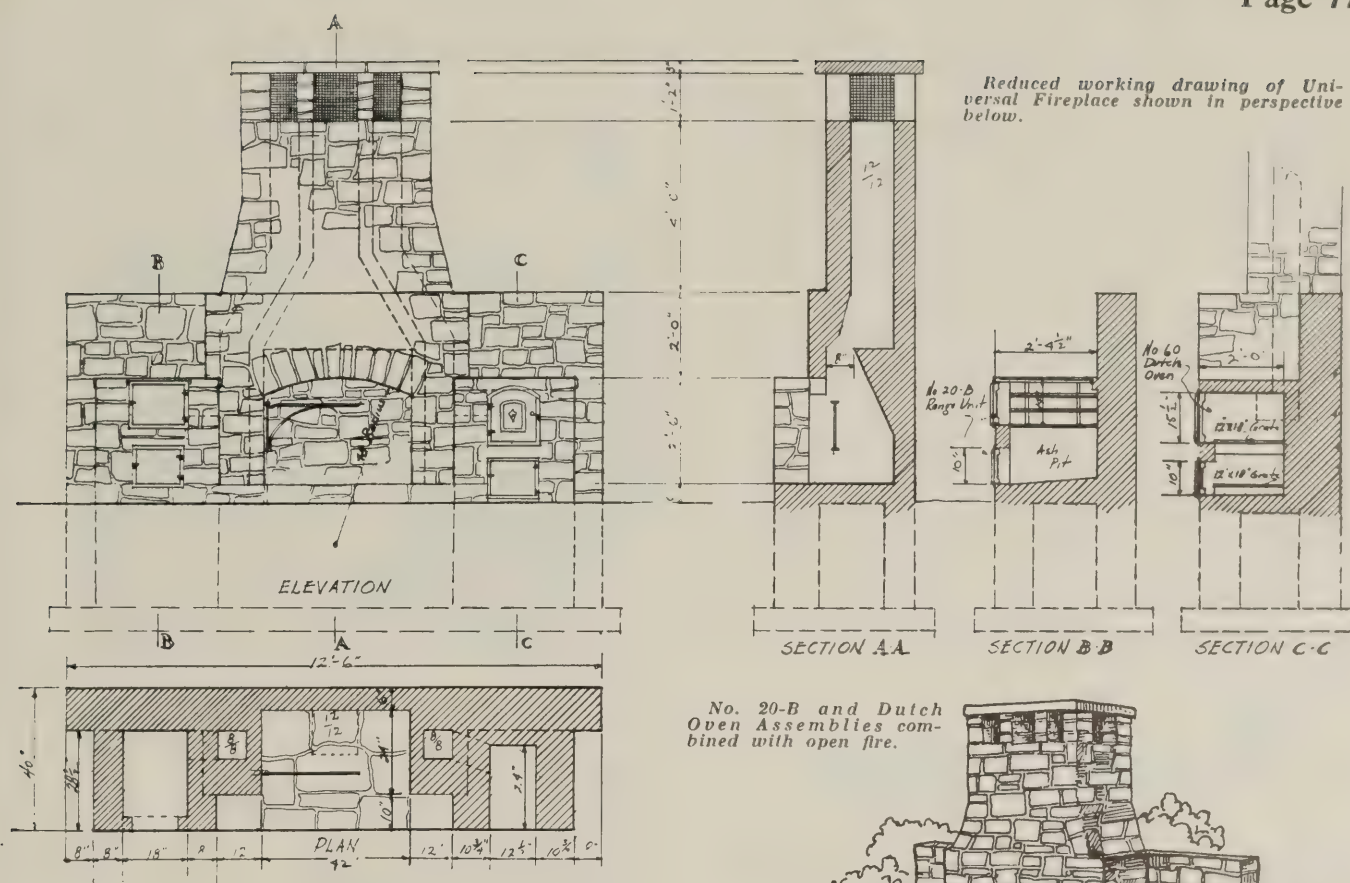
Crane is Useful—This or any other open fireplace is greatly aided in cooking utility when it is provided with a crane on which pots and kettles can be hung for boiling or pot roasting. The Donley Crane is described on Page 78 and is a thoroughly practical support for cooking utensils.

An open fire can also be used for toasting or roasting certain viands on long handled forks or spits. Potatoes can be baked in hot embers and the ingenuity of owners will suggest many other ways in which a simple, open fireplace may be used to prepare food.

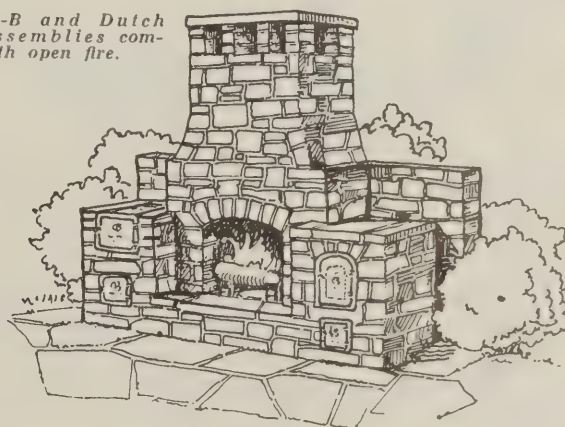


After the New England hurricane wrecked a sea wall at Giant Beach, Niantic, Conn., it was rebuilt with this outdoor fireplace incorporated in the masonry. The owner, John W. Nickerson, used a Donley Dutch Oven assembly and other Donley equipment.

A circular concrete table supported by a column of field stone, stands in the center of a plaza paved with random slabs of stone. Besides Donley Crane and Dutch Oven Door, this fireplace has 16" Log Rests, 12" by 24" grid and 12" by 12" spark guard on the chimney. The recess beneath the fireplace opening is used for general storage.



Combination Assemblies—Where the construction budget permits, interesting combinations of units can be designed, with the open fireplace as the central feature, but with combinations of grill unit, range unit and oven—one or more, arranged in the wings, together with adequate storage space for fuel and equipment makes an ideal structure for every phase of outdoor fireplace enjoyment.



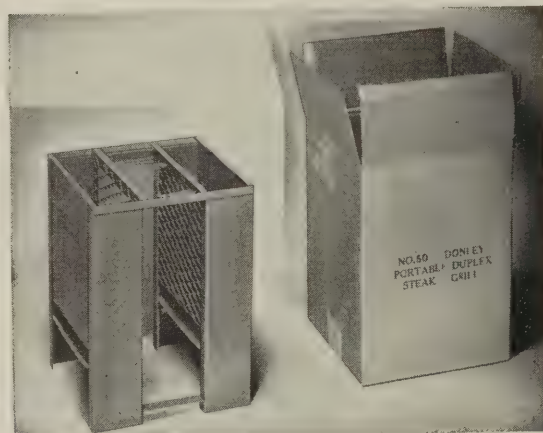
Portable Duplex Steak Grill No. 50

In operation, this grill is like the No. 40 built-in grill on Page 71, but its portability opens up other fields of use. Weighing only 42 pounds, it may be placed in the back yard for an evening's entertainment and then moved to the garage. It comes in a fiber board carton which may be saved for trips, the grill taking little space in the back of your car. You are equipped for steak sandwiches, for a delightful grilled fish spread, for cooking chops, toasting, for boiling coffee or as many other cooking tasks as your ingenuity may devise.

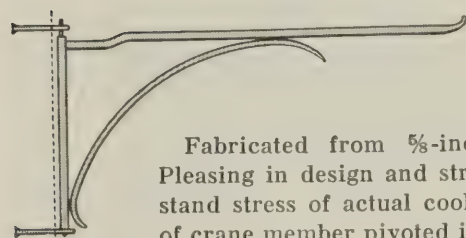
The Donley Portable Duplex Steak Grill is fabricated from steel sheets, strong enough to stand abuse, yet light enough to carry comfortably. Narrow, twin fire chambers with inner walls of expanded metal hold the divided charcoal fire. Viands held between the fires are cooked quickly, through and through.

Height is 18 inches, width and depth each 13 inches. Shipping weight in carton, only 42 pounds.

Below the fuel enclosures is a pan in which kerosene or other fluid may be placed and ignited for quick kindling of the charcoal fire.



Useful Fireplace Crane



Fabricated from $\frac{5}{8}$ -inch steel bars. Pleasing in design and strong enough to stand stress of actual cooking. Consists of crane member pivoted in two anchors, in such manner that crane can be easily removed and replaced.

No.	Length of Crane	Width of Fireplace Openings	Between Anchors	Shipping Weight
1	22"	24" to 31"	14 $\frac{1}{4}$ "	10 lbs.
2	26 $\frac{1}{2}$ "	32" to 43"	14 $\frac{1}{4}$ "	12 lbs.
3	32 $\frac{1}{2}$ "	44" to 53"	18 $\frac{1}{4}$ "	14 lbs.
4	41 $\frac{1}{2}$ "	54" to 72"	21 $\frac{3}{4}$ "	16 lbs.

Sturdy Log Rest

Sold in pairs. The most efficient and lasting support for firewood. A boon to the owner of any open-faced fireplace. Pair may also be used to support ends of 12" x 18" or 12" x 24" cooking



grid, with charcoal fire below. Made in two sizes—16-inch length for hearths 20 inches deep and 20-inch length for 24-inch depths of hearth. Shipping weights, respectively, 41 pounds and 48 pounds.



Dutch Oven Door

Door and frame are substantial castings of pleasing design, accurately hinged, with close-fitting latch. May be used for Dutch Oven or for storage enclosure. It fits a wall opening 12 $\frac{1}{2}$ x 15 $\frac{1}{2}$

inches in size, the outer dimensions being 15 x 18 inches. Shipping weight, 20 pounds.

Cast Iron Doors

Substantial, accurately fitting, they fill a variety of needs, as fire doors, also for ovens, ash chambers and storage chambers.



Wall Opening	Shipping Weight
8" x 8"	6 lbs.
10" x 8"	6 $\frac{3}{4}$ lbs.
12" x 10"	10 $\frac{1}{2}$ lbs.
15" x 12"	13 $\frac{1}{2}$ lbs.

Underground Rubbish Receiver

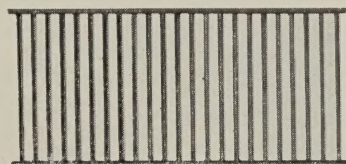
Every outdoor fireplace has its disposal problem. Ashes, cooking wastes and unburnable rubbish may be quickly put out of sight in this Donley Receiver, installed underground with its top flush with the surface.

Receiver consists of outer shell and inner container. Shell has hinged ring cover (used only in removing container for emptying) and service lid operated by a foot lever.

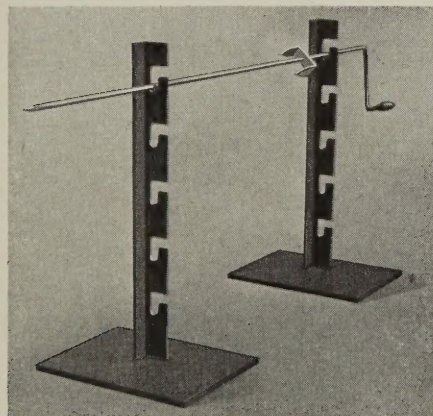


No.	Gallon Capac.	Overall Depth	Ship'g Weight
109	9	19"	37½ lbs.
112	12	22"	42½ lbs.
115	15	26"	47 lbs.
121	21	29"	70 lbs.

Staunch Cooking Grates



These grates, or grids, are high-grade castings, made in a variety of sizes, the more popular being 17" x 8", 17" x 10", 13" x 12", 19" x 12", 25" x 12".



Handy Spit for Open Air Roasting

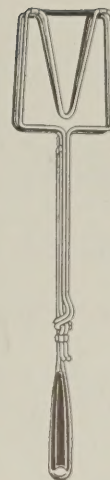
This simple, convenient Donley Spit can be used wherever there is a roasting fire and a place to put it. Five notches for five different heights make for convenient use over a low charcoal grill or before open fire. The 14 inch uprights are of heavy angle iron and welded to substantial bases, 6 by 8 inches in size. The spit is a ¼ inch rod pointed at one end, while the other end is bent into a crank for turning, with revolving wooden handle. Fork welded to the rod holds the chicken or other viands and makes it rotate with the spit. The spit is 30 inches long, but supports may be set at any convenient distance apart.

Large, General Purpose Frying Pan

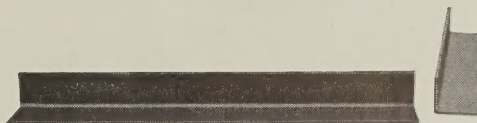
Our customers pioneered this generous utensil. The first one was made to order. Others followed as soon as the first one had a chance to make its merits felt. It is 16 by 22 inches in area, made of heavy gage steel, with a one inch flange turned up all around and welded at the corners. Handles are loops of rod stock, welded to the pan.

Broiling Forks

Here are two models of the many types of broiling forks or holders, convenient for outdoor cooking. They are available at most hardware stores or outing goods departments. If desired, we can supply them at reasonable prices. Device at left is 22¾ inches long and holds four wieners at once. At right is shown extension holder, lengthening from 23 to 32 inches. It has wooden handle and special grip, with about twice the capacity of holder at left.



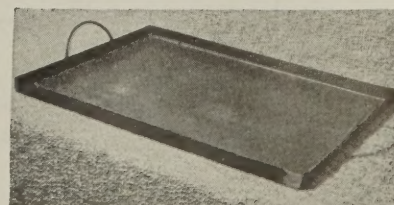
Steel Angles



For strong lintels over fireplace openings and elsewhere in supporting masonry, these angles are a necessity.

Size 3" x 3" x ⅜" comes in lengths of 30", 36", 42" and 48", shipping weight, 3.71 pounds per foot.

Size 4" x 3" x ¼" comes in lengths of 30", 36", 42", 48", 54" and 60". Shipping weight, 5.8 pounds per foot.



SUMMARY OF OUTDOOR FIREPLACE EQUIPMENT

Unit Numbers in Left Column Refer to Preceding Designs

Unit No.	Description (Use Numbers when Ordering)		Shipping Weight
No. 10A	Grate Area 12" x 19½"	2 Grates 12" x 19½" x ½"	22 ½ lbs.
No. 10B	Grate Area 13½" x 20"	4 Grates 13½" x 10" x ¾"	20 lbs.
No. 10C	Grate Area 12" x 25"	2 Grates 12" x 25" x ½"	30 lbs.
No. 20	Range Assembly 18" x 29" x 14"	Frame including Hinged Top 4 Grates, 2 Doors, 2 Angles	124 lbs.
No. 20-1S	Range Assembly 18" x 29" x 14"	Frame including Hinged Top 3 Grates, 2 Doors, 2 Angles 1 Solid Top Section	124 lbs.
No. 20-2S	Range Assembly 18" x 29" x 14"	Frame including Hinged Top 2 Grates, 2 Doors, 2 Angles 2 Solid Top Sections	124 lbs.
No. 30	Charcoal Stove 14½" x 20½" x 24"		66 lbs.
No. 30A	Charcoal Stove 14½" x 20½" x 24"	1—8" x 8" Door	72 lbs.
No. 40	Duplex Grill (Built-in) Assembly	2 Frames and Baskets 16" x 16" x 3" with Anchors 1—12" x 19½" x ½" Grate	52 lbs.
No. 50	Portable Duplex Grill	in carton 13" x 13" x 18"	42 lbs.
No. 60	Dutch Oven Assembly	1 Dutch Oven Door 1—12" x 10" Ash Door 2—12" x 18" Grates	53 lbs.
No. 70	Universal	2 Channels with Anchors 4—12" x 19½" x ½" Grates 1 No. 2 Crane 1—3" x 3" Angle 48"	95 lbs.

